City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656.4211 • Fax 503.656.4106 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT Peter Spir	PROJECT NO(S). SUB-16-01 / PUD-16-01 / WAP-16-05 / VAR-16-01 / WRG-16-01	
NON-REFUNDABLE FEE(S) 5750.00	REFUNDABLE DEPOSIT(S) 26,156.00	TOTAL

Type of Review (Please check all that apply):

- ☐ Annexation (ANX)
- ☐ Appeal and Review (AP) *
- ☐ Conditional Use (CUP)
- ☐ Design Review (DR)
- ☐ Easement Vacation
- ☐ Extraterritorial Ext. of Utilities
- ☐ Final Plat or Plan (FP)
- ☐ Flood Management Area
- ☐ Hillside Protection & Erosion Control
- ☐ Historic Review
- ☐ Legislative Plan or Change
- ☐ Lot Line Adjustment (LLA) */**
- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
- ☐ Non-Conforming Lots, Uses & Structures
- ☒ Planned Unit Development (PUD)
- ☐ Pre-Application Conference (PA) */**
- ☐ Street Vacation
- ☒ Subdivision (SUB)
- ☐ Temporary Uses *
- ☐ Time Extension *
- ☒ Variance (VAR)
- ☐ Water Resource Area Protection/Single Lot (WAP)
- ☒ Water Resource Area Protection/Wetland (WAP)
- ☒ Willamette & Tualatin River Greenway (WRG)
- ☐ Zone Change

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address:
1270 Rosemont Road
West Linn, OR

Assessor's Map No.:	21E26A	21E26D
Tax Lot(s):	1100	300
Total Land Area:	15.14 Acres	

Brief Description of Proposal:
Planned Unit Development to divide the subject property into lots for construction of single-famiy detached homes. A WRA permit is included due to the presence of a drainageway and wetlands on the property. A variance to the maximum cul-de-sac length standard is also being requested.

Applicant Name: (please print) Icon Construction and Development, LLC — Phone: (503) 657-0406
Address: 1980 Willamette Falls Drive, Suite 200 — Email: mark@iconconstruction.net
City State Zip: West Linn, OR 97068

Owner Name (required): (please print) Terwilliger Plaza Foundation Holdings, LLC — Phone: 503-808-7962
Address: 2545 SW Terwilliger Boulevard — Email: EComfort@terwilligerplaza.con
City State Zip: Portland, OR 97201

Consultant Name: (please print) Rick Givens, Planning Consultant — Phone: 503-479-0097
Address: 18680 Sunblaze Dr. — Email: rickgivens@gmail.com
City State Zip: Oregon City, OR 97045

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CITY OF WEST LINN
INT. TIME

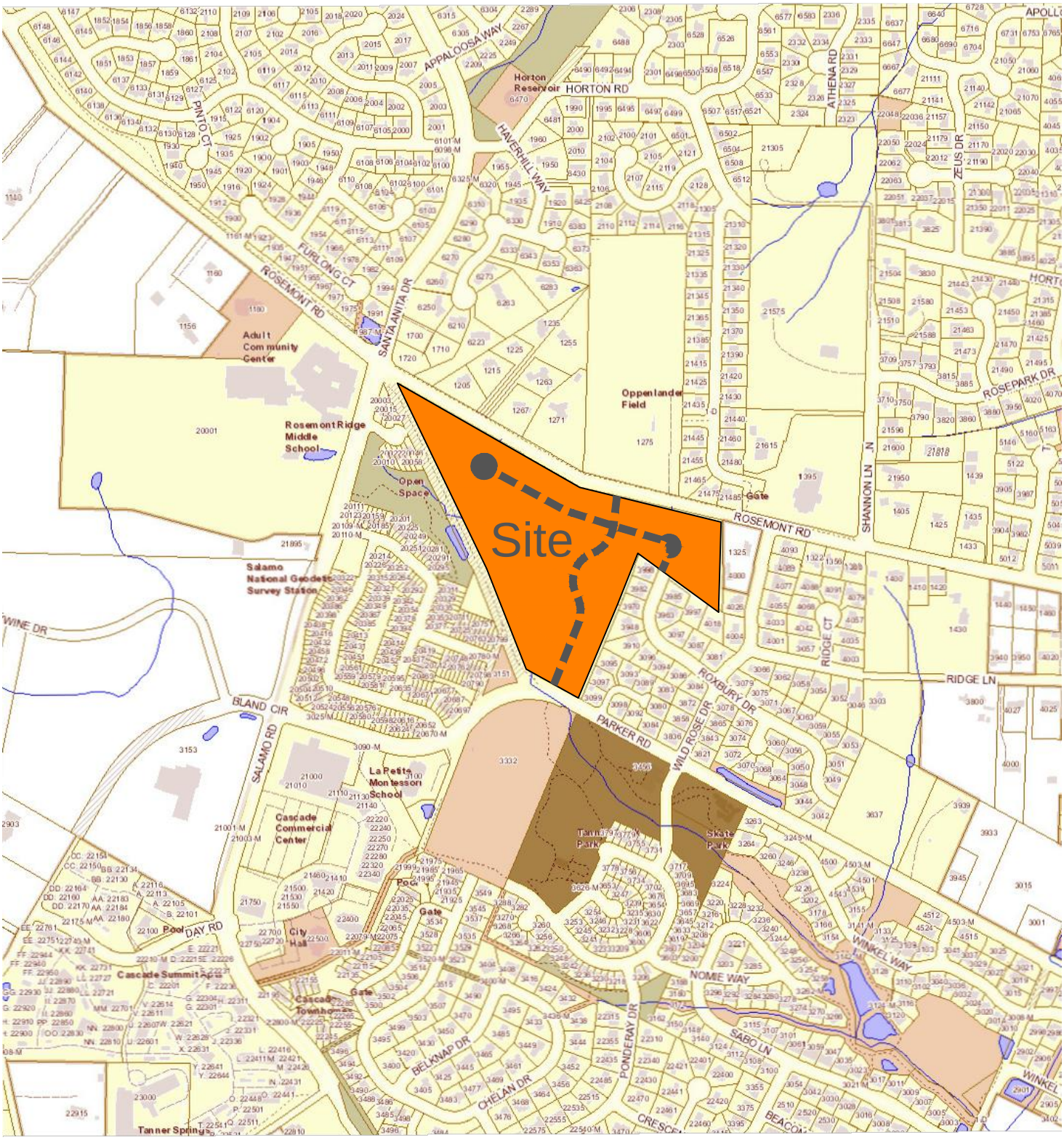
1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application. One (1) complete set of digital application materials must also be submitted on CD in PDF format. If large sets of plans are required in application please submit only two sets.**

* No CD required / ** Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature — Date: 4/4/2016
Owner's signature *(required)*: Elizabeth Comfort, Manager — Date: 3/30/2016

West Linn
City-wide Map



NORTH

Vicinity Map

SCALE 1" = 600'

DATE: April, 2016

Tanner Ridge at Rosemont

Planned Unit Development

Icon Construction & Development, LLC

TANNER RIDGE AT ROSEMONT

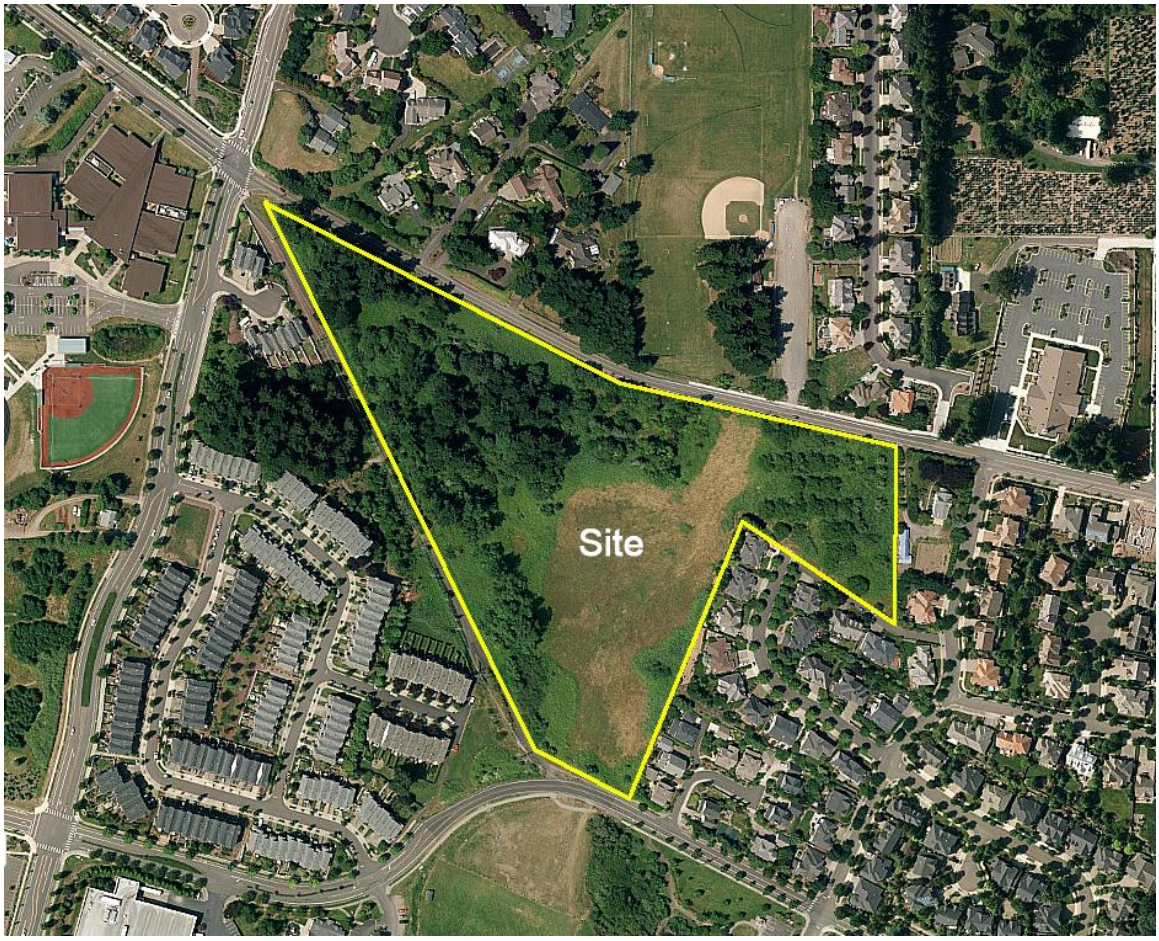
Planned Unit Development Subdivision Application

Icon Construction & Development, LLC

Proposal: This application requests approval of a 50-lot Planned Unit Development subdivision to be developed on property located at 1270 Rosemont Road in West Linn. The property is situated southeast of Remington Drive and northwest of Douglas Park. The subject property is described as Tax Lots 21E26A 1100 and 21E26D 300. The site is 15.97 acres (695,610 square feet) in area and is presently vacant. The subject property is zoned R-10.

The application is being proposed for development pursuant to the Planned Unit Development provisions of Chapter 24 of the West Linn Community Development Code (CDC). These provisions allow for greater design flexibility and for the creation of common area open space.

Vicinity Map



The proposed development conforms to the applicable provisions of the CDC as follows:

CHAPTER 24 – PLANNED UNIT DEVELOPMENT

24.010 PURPOSE

The purpose of the Planned Unit Development overlay zone is to provide a means for creating planned environments:

A. To produce a development which would be as good or better than that resulting from traditional lot-by-lot development.

B. To preserve, to the greatest extent possible, the existing landscape features and amenities through the use of a plan that relates the type and design of the development to a particular site.

C. To correlate comprehensively the provisions of this title and all applicable plans; to encourage developments which will provide a desirable, attractive, and stable environment in harmony with that of the surrounding area.

D. To allow flexibility in design, placement of buildings, use of open spaces, circulation facilities, off-street parking areas, and to best utilize the potentials of sites characterized by special features of geography, topography, size, and shape.

E. To allow a mixture of densities between zoning districts and plan designations when more than one district or designation is included in the development.

F. To develop projects that are compatible with neighboring development in terms of architecture, massing, and scale. Where that cannot be accomplished, appropriate transitions should be provided that are deferential or sympathetic to existing development.

G. To carry out the goals of West Linn's Vision, Imagine West Linn, especially goals relating to housing, commercial, and public facilities.

Applicant Response: The proposed development will be better than that which would result from the traditional R-10 subdivision process. The lots will be developed with single-family homes and will be compatible with the surrounding neighborhood in size and setbacks. The benefit of the PUD process, however, is that clustering of homes within the proposed development will provide for the preservation and dedication of 3.63 acres of the site to the City of West Linn as park space. This open space will provide for the preservation of wetlands and wooded areas of the site and, in conjunction with the adjoining Parker Rd. right-of-way walking path, will provide for a nature park that will benefit the proposed development and the surrounding neighborhood.

24.020 ADMINISTRATION AND APPROVAL PROCESS

A. The Planned Unit Development (PUD) zone is an overlay zone and the following are preconditions to filing an application:

1. Attending a pre-application conference with the City Community Development Department pursuant to CDC 99.030;

2. Attending a meeting with the respective City-recognized neighborhood association(s), per CDC 99.038, and presenting their preliminary proposal and receiving comments.

B. The application shall be filed by the owner of record or authorized agent.

C. Action on the application shall be as provided by Chapter 99 CDC, Procedures for Decision-Making: Quasi-Judicial. (Ord. 1474, 2001; Ord. 1590 § 1, 2009; Ord. 1621 § 25, 2014)

Applicant Response: The applicant attended a pre-application conference with City staff on January 21, 2016, as required by this section. A meeting with the Parker Crest Neighborhood Association was held on March 16, 2016. The Savanna Oaks and Hidden Falls Neighborhood Associations were also invited to attend this meeting as the site is located within 500 feet of the boundary line between these neighborhoods. The application is being filed by Icon Construction and Development, LLC, who will be the

developer of the subject property. The owner of the subject property, Terwilliger Plaza Foundation Holdings, LLC., has given its authorization for the filing of this application by signing the attached City of West Linn Development Review Application form.The required decision-making procedures of Chapter 99 will be followed by the City of West Linn in the review of this application.

24.030 EXPIRATION OR EXTENSION OF APPROVAL

Applicant Response: Not applicable.

24.040 NON-COMPLIANCE – BOND

Applicant Response: Not applicable.

24.050 STAGED DEVELOPMENT

The applicant may elect to develop the site in stages. "Staged development" is defined as an application that proposes numerous phases or stages to be undertaken over a period of time. Typically, the first phase will be sufficiently detailed pursuant to the submittal standards of Chapter 85 CDC. Subsequent phases shall provide the type of use(s); the land area(s) involved; the number of units; generalized location and size (square feet) of commercial, industrial, or office projects; parks and open space; street layout, access, and circulation; etc. Generalized building footprints for commercial, office, public, and multi-family projects and parking lot layout will be required. Staged development shall be subject to the provisions of CDC 99.125.

Applicant Response: Not applicable. The project will be developed in a single phase.

24.060 AREA OF APPLICATION

A. Planned unit developments (PUDs) may be established in all residential, commercial, and industrial districts on parcels of land which are suitable for and of sufficient size to be planned and developed in a manner consistent with the purposes of this section.

B. All qualifying non-residential, all mixed use developments, and all qualifying residential developments of five or more lots shall be developed as PUDs with the Hearings Officer as the decision-making body, while all qualifying residential developments of four or fewer lots shall be developed as a PUD with the Planning Director as the decision-making body, whenever one of the following qualifying criteria apply:

1. Any development site composed of more than 25 percent of Type I or Type II lands, as defined by CDC 24.060(C), shall be developed as a PUD.

2. More than 20 percent of the dwelling units are to be attached on common wall except in the R-3 and R-2.1 zones. A PUD is not required in R-3 and R-2.1 zones where common wall/multi-family projects are proposed. However, other criteria (such as density transfer, mixed uses, etc.) may trigger a PUD.

3. A large area is specifically identified by the Planning Director or Planning Commission as needing greater design flexibility, increased open space, or a wider variety of housing types. (Ord. 1408, 1998)

Applicant Response: The site contains 11,119 sq. ft. of Type II slopes and an additional 22,835 sq. ft. of drainageway and associated wetlands. The combined total Type II land is 33,954 sq. ft., or 5.1% of the 659,610 sq. ft. total site area. Since the site does not contain more than 25 percent Type I or Type II lands, it is not required to be developed as a PUD. The applicant is proposing that this project be developed as a PUD because of the increased flexibility in design standards afforded by Chapter 24 and the opportunity to preserve significant trees and drainage corridor areas as open space. The property is large enough to be planned and developed in a manner that is consistent with the purposes of the PUD provisions, as demonstrated by the site plan. It provides for appropriate building sites while preserving open space that will make a positive addition to the City's park system in this area.

24.070 EXEMPTIONS FROM PLANNED UNIT DEVELOPMENT REQUIREMENTS

A planned unit development (PUD) shall not apply in cases where all the following conditions exist:

A. No density transfer is proposed pursuant to provisions of this chapter.

B. No development, construction, or grading will take place on Type I and II lands.

C. All the Type I and II lands shall be dedicated to the City as open space, or protected by easement with appropriate delineation.

Applicant Response: Density transfer is being proposed from the areas planned to be dedicated to the City as park land. The proposed development, therefore, is consistent with this section.

24.080 SUBMITTAL REQUIREMENTS

The submittal requirements shall apply to non-exempt projects as identified in CDC 55.025, and shall include the following:

A. Narrative discussing proposal and applicability of the PUD and addressing approval criteria of this chapter and design review, CDC 55.100.

B. Narrative and table showing applicable density calculations.

C. Map showing how the densities will be distributed within the project site.

D. Compliance with submittal requirements of Chapter 55 CDC, Design Review, including full response to approval criteria for Chapter 55 CDC, Design Review, and Chapter 85 CDC, if it is a single-family PUD.

E. Narrative, tables, and showing all density transfers.

F. Tables and maps identifying all Type I, II, III and IV lands by acreage, location and type (please refer to definitions of these lands in Chapter 02CDC).

G. Other material as required by the Planning Director. (Ord. 1408, 1998; Ord. 1463, 2000)

Applicant Response: This narrative is provided in response to Item A. Density calculations are provided in a table depicted on the Tentative Plat. The site plan shows the distribution of densities for this project. The tree preservation provisions of Chapter 55 of the CDC apply to this project and have been satisfied in the design of the site plan, as discussed below in this report. The provisions of Chapter 85 are addressed below in this narrative. The density calculations and open spaces depicted on the Tentative Plan satisfy the requirement of Subsection E. Areas of Type II land exist on the property and are depicted on the Tentative Plan as the drainageway and associated wetlands areas, as well as a minor area of slopes in the range of 25 to 35% grade. No other additional materials were identified for this property by the Planning Director.

24.090 APPLICABILITY AND ALLOWED USES

Applicant Response: The provisions of this section allow the PUD Overlay Zone to be applied to the subject property since it is in a residential zone. The only uses proposed are single-family detached homes and open space that will be dedicated to the City of West Linn as park land for nature preservation and recreational hiking purposes. These uses are authorized by this section. No commercial uses are proposed.

24.100 APPROVAL CRITERIA

A. The approval criteria of CDC 55.100, design review, shall apply to non-exempted projects per CDC 55.025. Single-family detached, single-family attached, and duplex residential units proposed shall comply with the provisions of Chapter 43 CDC at time of building permit application.

Applicant Response: Only single-family detached homes are proposed so the approval criteria of CDC 55.025 do not apply. The provisions of Chapter 43 will be reviewed at the time of building permit application.

B. The application shall also demonstrate compliance with the following criteria:

1. The proposal shall preserve the existing amenities of the site to the greatest extent possible by relating the type and design of the development to the topography, landscape features, and natural amenities existing on the site and in the vicinity.

2. The proposed PUD shall provide a desirable, attractive, and stable environment in harmony with that of the surrounding area through thorough, well-developed, detailed planning and by comprehensively correlating the provisions of this code and all applicable adopted plans.

3. The placement and design of buildings, use of open spaces, circulation facilities, off-street parking areas, and landscaping shall be designed to best utilize the potentials of the site characterized by special features of geography, topography, size, and shape.

4. The PUD shall be developed so that it is compatible with neighboring development in terms of architecture, massing, and scale. Where that cannot be accomplished, appropriate transitions shall be provided that are deferential or sympathetic to existing development.

Applicant Response: The existing amenities of the site are the significant trees as mapped on the Tree Plan and the pond, wetlands and stream corridor areas located along the west side of this site. Except where grading associated with the construction of the cul-de-sac street requires removal, the significant trees will be preserved in park areas and through the use of conservation easements on lots.

The proposed development pattern provides suitable building sites for detached single-family homes consistent with the character of the surrounding single-family neighborhood. As discussed in this narrative, this project has been designed to conform to all applicable review and approval criteria.

The site plan provides for the dedication of 3.63 acres as park for purposes of preservation of significant trees and a main drainage corridor and associated wetlands. The plan also provides for drainage corridor easements in various areas of the site to provide of the passage of ephemeral drainageways depicted on City maps.

Ensuring compatibility with the surrounding neighborhood was a primary concern in preparing this application. Homes will be of a similar size and value as is found in the single-family neighborhood on Roxbury Drive. At the neighborhood meeting conducted prior to the submittal of this application, neighborhood concerns regarding potential for cut-through traffic from Rosemont Road to Parker Road via Roxbury Drive. Taking consideration of this commentary, the applicant has redesigned the street layout since

the date of the meeting so as to provide for a direct connection from Rosemont to Parker Drive via the new Meadowlark Drive within the subdivision.

C. All densities, density transfers, transitions, density bonuses, and proposed setbacks shall conform to provisions of this chapter as required by CDC 24.080 and 24.110 through 24.170 inclusive.

Applicant Response: As addressed in this narrative and shown in density calculations on the Tentative Plan, the proposed development is consistent with these provisions.

24.110 RESIDENTIAL DENSITY CALCULATIONS

A. The PUD allows density to be transferred on residential portions of the site. The following sections explain how the allowed number of dwelling units per acre is calculated. The standards are also intended to ensure that PUDs and adjoining developments are compatible and maintain a sense of neighborhood unity.

B. Net acres for land to be developed with detached single-family dwellings, or multi-family dwellings including duplexes, is computed by subtracting the following from the gross acres:

1. Any land area which is included in a boundary street right-of-way or water course, or planned open space areas if density transfer is not requested.

2. An allocation of 25 percent for public or private facilities (e.g., streets, paths, right-of-way, etc.) or, when a tentative plat or plan has been developed, the total land area allocated for public or private facilities.

3. A lot of at least the size required by the applicable base zone, if an existing dwelling is to remain on the site.

C. The allowed density or number of dwelling units on the site, subject to the limitations in CDC 24.140 and 24.150, is computed by dividing the number of square feet in the net acres by the minimum number of square feet required for each lot, by the base zone.

Applicant Response: See Density shown on the Tentative Plan and in response to Chapter 24.130.

24.130 ALLOWABLE DENSITY ON TYPE I AND II LANDS

Applicant Response:

This subsection provides for reduced density of development for various types of physical features that may exist on a given property. In the case of the subject property, there are minor areas of slopes in the 25% to 35% category (Type II). When density is transferred from such slopes, the density is reduced to 50% (if developed) or 75% (if undeveloped) of that normally permitted by the underlying zone. Building envelopes area shown on the Tentative Plan to show the limits of Type II lands proposed to be

developed. Additionally, lands within Water Resource Areas are limited to transfer of 50% of density that would normally accrue from the underlying zone. Taking into account these areas, density calculations are shown in Table 1, below:

Table 1: Density Calculations

	Area in Sq. Ft.
Gross Site Area	659,610
Land in a boundary street right-of-way, water course, or planned open space where density transfer is not requested	0
Area in street rights-of-way:	124,185
Net Site Area:	535,425
Type II Slopes Developed: 4,273 sq.ft. /10,000 x .5 =	0.21 Units
Type II Slopes Undeveloped: 6,846 sq. ft./10,000 x .75 =	0.51 Units
Water Resource Area: 99,364 sq.ft./10,000 x .5 =	4.97 Units
Open space (Type III and IV lands) 58,759 sq. ft./10,000 =	5.88 Units
Type III & IV lands developed: 366,185 sq. ft./10,000 =	36.62 Units
Total allowable base density:	48 Units
Density Bonus for Park Dedication: 5% (See Section 24.150)	2 Units
TOTAL ALLOWABLE DENSITY:	50 UNITS

24.140 TRANSITIONS AND LIMITATIONS ON DENSITY TRANSFER

A. Because the PUD and the provisions of this chapter allow increased residential densities and various housing types, it is necessary that some kind of transition be provided between the project site and the surrounding properties. These transitions will, for example, mitigate the impacts of multi-family housing next to single-family housing. Transitions are not required in all cases, however. The following exceptions shall apply:

1. Single-family PUD next to single-family non-PUD does not require a transition (e.g., even though it is R-5 single-family next to R-10, etc.). Also, similar type housing does not need to transition (e.g., duplex next to duplex);

Applicant Response: The subject property is being developed with lots for single-family detached homes so no transition is required.

24.150 DENSITY BONUSES

A. Although the density may be reduced by CDC 24.130, applicants are encouraged to seek density bonus credits under such categories as "site planning and design excellence." The permitted number of dwelling units may be increased up to 29 percent above those computed under the formula above based on a finding of the Planning Director that the density bonus credits have been satisfied as set forth in the following section and in CDC 24.160:

Applicant Response: Pursuant to Section 24.160(3), a density bonus of five percent is permissible for "improved site area is dedicated and accepted by the City, or other public agency, as usable, accessible park land." The applicant has had positive preliminary discussions with the City Park Department regarding the dedication of Tracts A and B to the City of West Linn for park purposes. Although the primary purpose of the parks will be for preservation of natural areas, the applicant proposes to improve the park sites by removing invasive blackberries, doing mitigation plantings of wetland landscape materials as discussed in the report prepared by Schott and Associates that is appended to this application, and by developing pedestrian pathways as shown on the Tentative Plan.

24.170 USABLE OPEN SPACE REQUIRED

Residential planned unit developments (PUDs) shall comply with the following usable open space requirements:

A. PUDs that contain multi-family units shall comply with the requirements of CDC 55.100(F).

Applicant Response: Not applicable. No multi-family units are proposed.

B. PUDs that contain 10 or more single-family detached, single-family attached, or duplex residential units shall comply with the following usable open space requirements.

Applicant Response: The proposed development contains 50 lots for single-family detached homes. These provisions apply, as discussed below:

1. *The plan shall include an open space area with at least 300 square feet of usable area per dwelling unit.*

   Comment: The plan proposes 50 units, which, at 300 sq. ft. per unit, would require a total of at least 15,000 sq. ft. of usable area. The site plan provides for a total of 158,123 sq. ft. of open space. Although it could be argued that the drainageway and wetlands are not "usable" within the meaning of this section, those areas only account for 22,835 sq. ft., leaving 135,288 sq. ft. of usable area. This criterion is met.

2. *The usable open space shall meet the design requirements of CDC 55.100(F)(2).*

Comment: CDC 55.100(F)(2) states:

2. *The required recreation space may be provided as follows:*

   a. *It may be all outdoor space; or*

   b. *It may be part outdoor space and part indoor space; for example, an outdoor tennis court and indoor recreation room; and*

   c. *Where some or all of the required recreation area is indoor, such as an indoor recreation room, then these indoor areas must be readily accessible to all residents of the development subject to clearly posted restrictions as to hours of operation and such regulations necessary for the safety of minors.*

   d. *In considering the requirements of this subsection F, the emphasis shall be on usable recreation space. No single area of outdoor recreational space shall encompass an area of less than 250 square feet. All common outdoor recreational space shall be clearly delineated and readily identifiable as such. Small, marginal, and incidental lots or parcels of land are not usable recreation spaces. The location of outdoor recreation space should be integral to the overall design concept of the site and be free of hazards or constraints that would interfere with active recreation.*

All of the proposed open space is outdoor area. All of the open space exists in contiguous tracts that are well in excess of 200 square feet. The proposed open space will be dedicated as park land. No small, marginal, or incidental lots or parcels of open space are proposed. The two park tracts are contiguous to the Park Road pedestrian pathway and the proposed pedestrian paths within the new park land will provide for a logical connected pedestrian trail system.

3. *The usable open space shall be owned in common by the residents of the development unless the decision-making authority determines, based upon a request from the applicant and the recommendation of the City Director of Parks and Recreation, that the usable open space should be dedicated to the City for public use. If owned in common by the residents of the development, then a homeowner's association shall be organized prior to occupancy to maintain the usable open space.*

Comment: The open space is proposed to be dedicated to the City of West Linn as park land. Preliminary discussions with the City of West Linn Parks Director indicates support for this proposal.

4. *If the usable open space contains active recreational facilities such as hard surface athletic courts or swimming pools, then the usable open space area*

shall not be located on the perimeter of the development unless buffered by a transition pursuant to CDC 24.140(B).

Comment: No such active recreational facilities are proposed.

24.180 APPLICABILITY OF THE BASE ZONE PROVISIONS

The provisions of the base zone are applicable as follows:

A. Lot dimensional standards. The minimum lot size and lot depth and lot width standards do not apply except as related to the density computation under this chapter.

B. Lot coverage. The lot coverage provisions of the base zone shall apply for detached single-family units. For single-family attached residential units, duplex residential units, and multiple-family residential units, the following lot coverage provisions shall apply, based upon the underlying base zone.

R-40, R-20	*35 percent*
R-15	*40 percent*
R-10, R-7	*45 percent*
R-5, R-4.5	*50 percent*
R-3, R-2.1	*60 percent*

Applicant Response: The proposed homes will conform to the maximum 45 percent lot coverage standard for the R-10 zone.

C. Building height. The building height provisions of the underlying zone shall apply.

Applicant Response: The proposed homes will comply with the height standards of the R-10 zone.

D. Structure setback provisions.

1. Setback areas contiguous to the perimeter of the project shall be the same as those required by the base zone unless otherwise provided by the base zone or Chapter 55 CDC.

2. The side yard setback provisions shall not apply except that all detached structures shall maintain a minimum side yard setback of five feet, or meet the Uniform Building Code requirement for fire walls.

3. The side street setback shall be 10 feet.

4. The front yard and rear yard setbacks shall be 15 feet. Porches may encroach forward another five feet. Additional encroachments, such as porches, are allowed per Chapter 38 CDC.

5. The setback for a garage in the front yard that opens onto the street shall be 20 feet unless the provisions of CDC 41.010 apply. Garages in the rear yard may meet the standards of CDC 34.060.

6. The applicant may propose alternative setbacks. The proposed setbacks must be approved by the decision-making body and established as conditions of approval, or by amendment to conditions of approval. The decision-making body will consider among other things maintenance of privacy, adequate light, defensible space, traffic safety, etc.

Applicant Response: The proposed development will comply with these structure setbacks.

E. All other provisions of the base zone shall apply except as modified by this chapter.

Applicant Response: Plans will be reviewed at the time of building permit submittal to ensure that all other provisions of the R-10 zone are met.

24.190 PUD AMENDMENT TRIGGER

Applicant Response: Not applicable. No amendment of a prior PUD approval is being requested.

85.170(B) (2): Per the requirements of this section, a traffic analysis is required whenever a proposed development will generate traffic in excess of 250 vehicle trips per day. A traffic report has been prepared for this project by Lancaster Engineering and is attached to this application. Please refer to that report.

85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

Comment: The subject property fronts on Rosemont Road, on the north, and Parker Road, on the south. Rosemont Road and Parker Road are classified by the City of West Linn as Minor Arterial streets. These streets are both paved with two travel lanes. Both will require half-street improvements along the project frontage to bring them into compliance with full City standards. Additional right-of-way dedication is proposed along Rosemont Road to meet minor arterial standards. Internal streets are all local streets. Meadowlark Drive is a proposed north-south street that connects directly between Rosemont Road and Parker Road. Heron Drive is an east-west street that provides for a connection to the stub of Roxbury Drive to the east. To the west, Heron Ct. ends in a cul-de-sac as a connection to Rosemont is impractical due to grades and the Parker pedestrian path precludes any future connection to the

west. All of these streets are proposed to be improved to full City local street standards with 56 feet of right-of-way, 32' of pavement, curbs, 5' planters and sidewalks on both sides of the street. This standard conforms to the specifications in the City of West Linn Roadway Cross-Section Standards table in Section 85.200(A)2.

No reserve strips are warranted as there are no stub streets proposed. The extension of Roxbury Drive aligns with the current centerline of that street. No other streets that could be extended abut the subject property. The intersections of Meadowlark Drive with Parker Road and Rosemont Road are "T" intersections that do not have other intersecting streets located within 200 feet of their proposed locations. There are no adjoining undeveloped properties so no stub streets are necessary. All intersection angles are at approximately 90 degrees, as required. Additional right-of-way dedication is proposed along Rosemont Road, consistent with minor arterial standards and the dedication widths obtained with the development of other nearby subdivisions.

One cul-de-sac street, Heron Ct., is proposed in this development. The following provisions of Section 85.200(A)11 are applicable:

a. *New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing less than five acres, or sites accommodating uses other than residential or mixed use development, are not allowed unless the applicant demonstrates that there is no feasible alternative due to:*

    1) *Physical constraints (e.g., existing development, the size or shape of the site, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC), or*

    2) *Existing easements or leases.*

Comment: The subject property contains over 15 acres, so this provision does not apply.

b. *New cul-de-sacs and other closed-end streets, consistent with subsection (A)(11)(a) of this section, shall not exceed 200 feet in length or serve more than 25 dwelling units unless the design complies with all adopted Tualatin Valley Fire and Rescue (TVFR) access standards and adequately provides for anticipated traffic, consistent with the Transportation System Plan (TSP).*

Comment: Not applicable.

c. *New cul-de-sacs and other closed-end streets (not including stub streets intended to be connected) on sites containing five acres or more that are proposed to accommodate residential or mixed use development are prohibited unless barriers (e.g., existing development, steep topography, or a fish bearing stream or wetland protected by Chapter 32 CDC, or easements, leases or covenants established prior to May 1, 1995) prevent street extensions. In that case, the street shall not exceed 200 feet in length or serve more than 25*

dwelling units, and its design shall comply with all adopted TVFR access standards and adequately provide for anticipated traffic, consistent with the TSP.

Comment: The physical constraints of site topography, and grading due to a desire to minimize removal of trees, precludes Heron Ct. connecting to Rosemont Road. Sight distance would also be problematic. The Parker pedestrian path precludes extension of Heron Drive to the west. The proposed Heron Ct. cul-de-sac is approximately 585 feet long and serves 20 lots. The width of the road, with a full 56' of right-of-way and 32' of paving will meet all TVFR standards and will accommodate anticipated traffic from 20 homes.. A variance to the 200' maximum cul-de-sac length standard is being requested. Please refer to the discussion of Chapter 75 below in this report.

d. Applicants for a proposed subdivision, partition or a multifamily, commercial or industrial development accessed by an existing cul-de-sac/closed-end street shall demonstrate that the proposal is consistent with all applicable traffic standards and TVFR access standards.

Comment: Not applicable. The site is not accessed from an existing cul-de-sac or closed-end street.

e. All cul-de-sacs and other closed-end streets shall include direct pedestrian and bicycle accessways from the terminus of the street to an adjacent street or pedestrian and bicycle accessways unless the applicant demonstrates that such connections are precluded by physical constraints or that necessary easements cannot be obtained at a reasonable cost.

Comment: A pathway from the end of the cul-de-sac to the Parker Rd. pedestrian trail is shown on the Tentative Plan.

f. All cul-de-sacs/closed-end streets shall terminate with a turnaround built to one of the following specifications (measurements are for the traveled way and do not include planter strips or sidewalks).

Comment: The cul-de-sac terminates in a circular turn-around consistent with City standards.

The proposed street names do not duplicate other street names in West Linn. The maximum street grade proposed is 15% for Meadowlark Drive, which is consistent with City standards. The minimum centerline curve radius proposed is 125 feet, which exceeds the minimum standard of 50 feet. City staff have indicated at the pre-application conference that the proposed intersections with Rosemont and Parker are acceptable. No alleys are proposed. All proposed streets have sidewalks and planter strips, consistent with City standards. All proposed streets will be dedicated without any reservations or restrictions. All lots in the subdivision have access to a public street, as shown on the Tentative Plan. No gated streets or special entry designs are proposed.

B. Blocks and lots.

Comment: No new blocks having a length of more than 800 feet are proposed. Due to terrain and surrounding development patterns, it is not practicable to make blocks that are shorter. The proposed lots are rectangular, contain sufficient area to meet the requirements of the R-10 zone, as modified by the PUD provisions. The lots have buildable depths that do not exceed 2.5 times their width.

The development conforms to the provisions of Chapter 48, as discussed below in this report. The only through lots proposed are those that back up to Rosemont Road, a minor arterial street. Direct access to lots from a minor arterial street is not appropriate, especially given the limited sight distance. The proposed lot lines are approximately at right angles to the streets.

Flag lots are proposed in three areas of this site where frontage is limited. Lot 6 is located on the knuckle at the intersection of Heron Dr. and Roxbury Drive. It has a 20' accessway, which exceeds City standards. Lots 9 and 10 are located on the east side of Roxbury Dr. where the depth of the lot is approximately 220 feet from the right-of-way to the east property line. There is no practicable street configuration that would serve that area. The combined access drive to those two lots 20 feet, which exceeds City standards. Lots 39 and 40 also share a 20' wide accessway. Those lots are at the end of Heron Ct., where there is insufficient frontage for them to be directly accessed from the cul-de-sac. Common accessways proposed will have mutual maintenance agreements and reciprocal access and utility easements.

The proposed lots are not large enough to allow for future re-division under the provisions of the R-10 zone.

C. Pedestrian and bicycle trails.

Comment: A pedestrian trail is proposed from the end of Heron Ct. to the pathway on the old Parker Road right-of-way. This pathway will be developed to City standards. No bicycle land improvements were listed on the Bicycle Master Plan.

D. Transit facilities.

Comment: Not applicable. No transit facilities are proposed or required as there is no TriMet service in this area.

E. Lot grading.

Comment: Grading of the proposed building site will conform to City standards. Preliminary grading plans for the street area is shown on the Preliminary Grading Plan submitted with this application. Compliance for individual homes will be reviewed at the time of building permit application.

F. Water.

Comment: City water is available in Rosemont Road and Roxbury Dr. Comments from City Public Works at the pre-application conference indicate that the existing 8-inch line in Rosemont Road will have to be upgraded by the developer to a 12-inch

line. The Preliminary Utility Plan shows the proposed water system within the development, which provides for a looped system with the existing line in Roxbury Drive and extends service through to Parker Road. All lots will be served from this public water system.

G. Sewer.

Comment: As shown on the Preliminary Utility Plan, there are existing public sewer lines located in Parker Road and in Roxbury Drive. These sewer lines will be extended to service all lots within the proposed subdivision.

H. Storm.

Comment: Tanner Creek, which crosses the subject property along its western border will accommodate storm water from the proposed development. As shown on the Preliminary Utility Plan, storm sewer will be installed in the new streets and directed to a detention and treatment facility to be developed in Tract "B". Treated storm water will be discharged to the creek at pre-development levels, consistent with City standards.

I. Utility easements. Utility easements are shown on the plans submitted with this application.

J. Supplemental provisions.

1. Wetland and natural drainageways. Comment: Please refer to the Natural Resouce Assessment report by Schott and Associates for discussion of compliance with Water Resource Area requirements.

2. Willamette and Tualatin Greenways. Comment: Not applicable. The site is not located in a greenway area.

3. Street trees. Comment: Street trees will be provided as required, as shown on the Tentative Plan.

4. Lighting. Comment: Prior to final plat approval an analysis of existing street lighting will be conducted and, if necessary, improvements made to comply with these standards.

5. Dedications and exactions. Comment: No new dedications or exactions to service off-site properties are anticipated in conjunction with this application.

6. Underground utilities. Comment: All utilities are proposed to be underground, as required by this section.

7. Density requirement. Comment: The density calculations submitted with this application demonstrate that the maximum density permitted on this site is 50 units. The proposed density of 50 units satisfies the minimum density standard.

8. Mix requirement. Comment: Not applicable. This requirement only applies in the R-2.1 and R-3 zones. The subject property is zoned R-10.

9. Heritage trees/significant tree and tree cluster protection. Comment: No heritage trees, as defined in the Municipal Code, are present on the site. Other existing trees are mapped on the Tree Plan, including those identified by the City Arborist as "significant". Please see discussion of Chapter 55, below.

10. Annexation and street lights. Comment: Not applicable. The subject property is within the city limits.

Chapter 48 - ACCESS, EGRESS AND CIRCULATION

48.025 ACCESS CONTROL

B. Access control standards.

1. Traffic impact analysis requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also CDC 55.125, Traffic Impact Analysis.)

Comment: A Traffic Impact Analysis has been prepared by Lancaster Engineering and is included in the application package.

2. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

Comment: Access to the site will be via new intersections of Meadowlark Dr. with Rosemont Road and Parker Road. No driveway accesses onto Rosemont or Parker will remain following development.

3. Access options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards and TSP). These methods are "options" to the developer/subdivider.

a) Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.

b) Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.

c) Option 3. Access is from a public street adjacent to the development lot or parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection (B)(6) of this section.

Comment: All lots will take access from the new local street system within the PUD.

4. Subdivisions fronting onto an arterial street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

Comment: The site plan provides local street access for all lots. No access will be provided via the minor arterial streets (Rosemont Rd. and Parker Rd.).

5. Double-frontage lots. When a lot or parcel has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street. When a lot or parcel has frontage opposite that of the adjacent lots or parcels, access shall be provided from the street with the lowest classification.

Comment: Double-frontage lots are proposed along Rosemont Road. All of these lots will take access from the local streets (Heron Dr. and Heron Ct.).

6. Access spacing.

a. The access spacing standards found in Chapter 8 of the adopted Transportation System Plan (TSP) shall be applicable to all newly established public street intersections and non-traversable medians.

b. Private drives and other access ways are subject to the requirements of CDC 48.060.

Comment: The proposed intersections of Meadowlark Dr. with Rosemont Rd. and Parker Rd. comply with the access spacing standards of the TSP.

7. Number of access points. For single-family (detached and attached), two-family, and duplex housing types, one street access point is permitted per lot or parcel, when alley access cannot otherwise be provided; except that two access points may be permitted corner lots (i.e., no more than one access per street), subject to the access spacing standards in subsection (B)(6) of this section. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with subsection (B)(8) of this section, in order to maintain the required access spacing, and minimize the number of access points.

Comment: Each proposed lot will have one access point, as specified in this section. Shared accesses for flag lots are proposed.

8. Shared driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:

a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future as the adjacent lot or parcel develops. "Developable" means that a lot or parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.

c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, lot or parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

Comment: Shared accesses for flag lots are proposed. All other lots will have individual driveway accesses.

C. Street connectivity and formation of blocks required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:

1. Block length and perimeter. The maximum block length shall not exceed 800 feet or 1,800 feet along an arterial.

Comment: No block lengths in excess of 800 feet are proposed.

2. Street standards. Public and private streets shall also conform to Chapter 92 CDC, Required Improvements, and to any other applicable sections of the West Linn Community Development Code and approved TSP.

Comment: Proposed streets will comply with the public street standards of Chapter 92 (see below).

3. Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of CDC 85.200(C), Pedestrian and Bicycle Trails, or cases where extreme topographic (e.g., slope, creek, wetlands, etc.) conditions or compelling functional

limitations preclude implementation, not just inconveniences or design challenges. (Ord. 1635 § 25, 2014; Ord. 1636 § 33, 2014)

Comment: No exceptions to block length are necessary.

48.030 MINIMUM VEHICULAR REQUIREMENTS FOR RESIDENTIAL USES

A. Direct individual access from single-family dwellings and duplex lots to an arterial street, as designated in the transportation element of the Comprehensive Plan, is prohibited for lots or parcels created after the effective date of this code where an alternate access is either available or is expected to be available by imminent development application. Evidence of alternate or future access may include temporary cul-de-sacs, dedications or stubouts on adjacent lots or parcels, or tentative street layout plans submitted at one time by adjacent property owner/developer or by the owner/developer, or previous owner/developer, of the property in question.

Comment: No individual access from the proposed lots to Rosemont Rd. or Parker Rd. is proposed. All lots will take access from the internal local street system.

B. When any portion of any house is less than 150 feet from the adjacent right-of-way, access to the home is as follows:

1. One single-family residence, including residences with an accessory dwelling unit as defined in CDC 02.030, shall provide 10 feet of unobstructed horizontal clearance. Dual-track or other driveway designs that minimize the total area of impervious driveway surface are encouraged.

2. Two to four single-family residential homes equals a 14- to 20-foot-wide paved or all-weather surface. Width shall depend upon adequacy of line of sight and number of homes.

3. Maximum driveway grade shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter 75 CDC. Regardless, the last 18 feet in front of the garage shall be under 12 percent grade as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.

4. The driveway shall include a minimum of 20 feet in length between the garage door and the back of sidewalk, or, if no sidewalk is proposed, to the paved portion of the right-of-way.

Comment: All lots will have individual driveways that conform to these standards. Driveways will be reviewed at the time of building permit application.

C. When any portion of one or more homes is more than 150 feet from the adjacent right-of-way, the provisions of subsection B of this section shall apply in addition to the following provisions.

1. A turnaround may be required as prescribed by the Fire Chief.

2. Minimum vertical clearance for the driveway shall be 13 feet, six inches.

3. A minimum centerline turning radius of 45 feet is required unless waived by the Fire Chief.

4. There shall be sufficient horizontal clearance on either side of the driveway so that the total horizontal clearance is 20 feet.

Comment: Lots 9, 10 and 39 may have portions of the homes located more than 150 feet for the adjacent right-of-way. The applicant will coordinate with TVFR to ensure that these standards are met to the Fire Chief's satisfaction.

D. Access to five or more single-family homes shall be by a street built to full construction code standards. All streets shall be public. This full street provision may only be waived by variance.

Comment: All proposed streets will be built to full City standards for local streets.

E. Access and/or service drives for multi-family dwellings shall be fully improved with hard surface pavement:

Comment: Not applicable. No multi-family dwellings are proposed.

F. Where on-site maneuvering and/or access drives are necessary to accommodate required parking, in no case shall said maneuvering and/or access drives be less than that required in Chapters 46 and 48 CDC.

Comment: Not applicable. All lots are for single-family homes and all parking will be provided on the home's driveway.

G. The number of driveways or curb cuts shall be minimized on arterials or collectors. Consolidation or joint use of existing driveways shall be required when feasible.

Comment: No driveways onto arterial or collector streets are proposed.

H. In order to facilitate through traffic and improve neighborhood connections, it may be necessary to construct a public street through a multi-family site.

Comment: Not applicable. No multi-family development is proposed.

I. Gated accessways to residential development other than a single-family home are prohibited. (Ord. 1408, 1998; Ord. 1463, 2000; Ord. 1513, 2005; Ord. 1584, 2008; Ord. 1590 § 1, 2009; Ord. 1636 § 34, 2014)

Comment: Not applicable. No gated accesses are proposed.

Chapter 55 - DESIGN REVIEW

As required by this chapter, the applicant retained the services of an arborist (Multnomah Tree Experts) to identify the size, species, and condition of existing trees on the subject property. The trees were surveyed and mapped by Centerline Concepts, Inc., as shown on the Existing Conditions Map submitted with this application. Subsequently, the City Arborist visited the site and identified 101 significant trees. These trees are shown on the Tree Preservation Plan submitted with this application. The following provisions of Chapter 55 relating to tree preservation are applicable to this proposal:

B. Relationship to the natural and physical environment.

1. The buildings and other site elements shall be designed and located so that all heritage trees, as defined in the municipal code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction.

Comment: No heritage trees are located on the subject property.

2. All heritage trees, as defined in the municipal code, all trees and clusters of trees ("cluster" is defined as three or more trees with overlapping driplines; however, native oaks need not have an overlapping dripline) that are considered significant by the City Arborist, either individually or in consultation with certified arborists or similarly qualified professionals, based on accepted arboricultural standards including consideration of their size, type, location, health, long term survivability, and/or numbers, shall be protected pursuant to the criteria of subsections (B)(2)(a) through (f) of this section. In cases where there is a difference of opinion on the significance of a tree or tree cluster, the City Arborist's findings shall prevail. It is important to acknowledge that all trees are not significant and, further, that this code section will not necessarily protect all trees deemed significant.

a. Non-residential and residential projects on Type I and II lands shall protect all heritage trees and all significant trees and tree clusters by either the dedication of these areas or establishing tree conservation easements. Development of Type I and II lands shall require the careful layout of streets, driveways, building pads, lots, and utilities to avoid heritage trees and significant trees and tree clusters, and other natural resources pursuant to this code. The method for delineating the protected trees or tree clusters ("dripline + 10 feet") is explained in subsection (B)(2)(b) of this section. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply.

Comment: None of the significant trees identified by the City Arborist are located on Type I or II lands.

b. Non-residential and residential projects on non-Type I and II lands shall set aside up to 20 percent of the area to protect trees and tree clusters that are determined to be significant, plus any heritage trees. Therefore, in the event that the City Arborist determines that a significant tree cluster exists at a development site, then up to 20 percent of the non-Type I and II lands shall be

devoted to the protection of those trees, either by dedication or easement. The exact percentage is determined by establishing the driplines of the trees or tree clusters that are to be protected. In order to protect the roots which typically extend further, an additional 10-foot measurement beyond the dripline shall be added. The square footage of the area inside this "dripline plus 10 feet" measurement shall be the basis for calculating the percentage (see figure below). The City Arborist will identify which tree(s) are to be protected. Development of non-Type I and II lands shall also require the careful layout of streets, driveways, building pads, lots, and utilities to avoid significant trees, tree clusters, heritage trees, and other natural resources pursuant to this code. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply. Please note that in the event that more than 20 percent of the non-Type I and II lands comprise significant trees or tree clusters, the developer shall not be required to save the excess trees, but is encouraged to do so.

Comment: The Tree Preservation Plan identifies all of the significant trees on non-Type I and II lands. The plan shows a total of 69,424 sq. ft. of the site being devoted to the preservation of significant trees. Seventy-three of the 101 identified significant trees (72%) will be preserved. The portion of the site devoted to tree preservation equates to 10.5% of the site area. While this is less than the required 20% maximum set-aside for preservation of significant trees, the significant trees that are being removed are located in an area that must be graded due to street construction. Please see discussion of subsection f, below.

c. Where stubouts of streets occur on abutting properties, and the extension of those streets will mean the loss of significant trees, tree clusters, or heritage trees, it is understood that tree loss may be inevitable. In these cases, the objective shall be to minimize tree loss. These provisions shall also apply in those cases where access, per construction code standards, to a lot or parcel is blocked by a row or screen of significant trees or tree clusters.

Comment: Not applicable. No stubouts of streets on abutting properties will require the removal of significant trees.

d. For both non-residential and residential development, the layout shall achieve at least 70 percent of maximum density for the developable net area. The developable net area excludes all Type I and II lands and up to 20 percent of the remainder of the site for the purpose of protection of stands or clusters of trees as defined in subsection (B)(2) of this section.

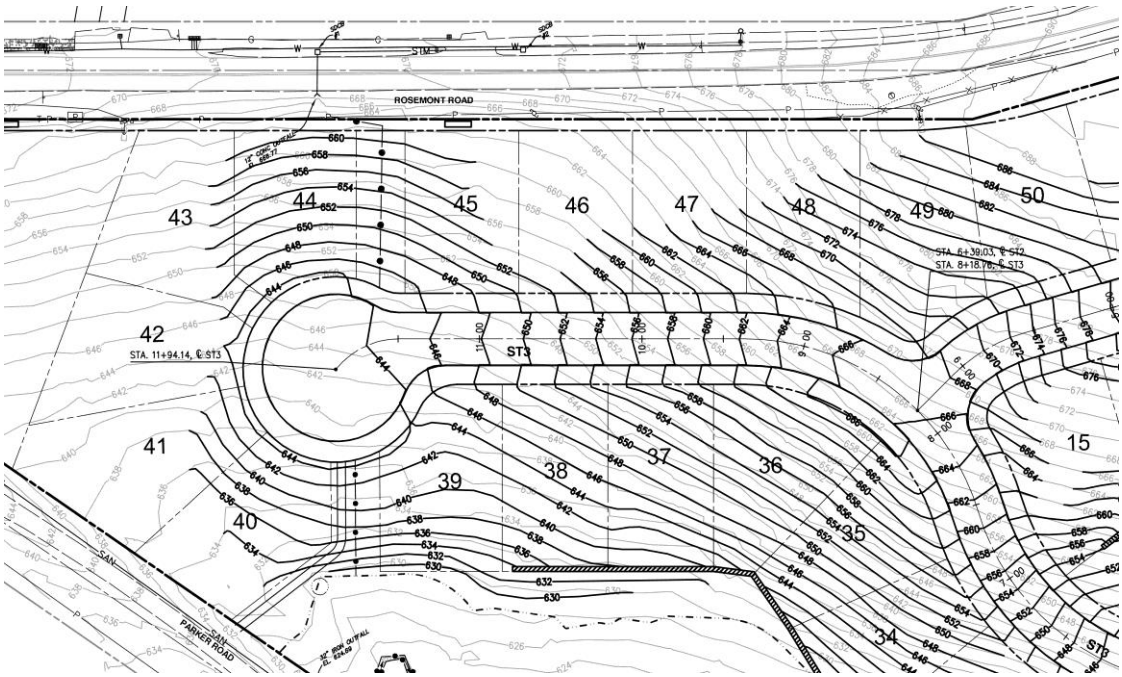
Comment: The density calculations submitted with this application demonstrate that the project will achieve more than 70% of maximum density.

e. For arterial and collector street projects, including Oregon Department of Transportation street improvements, the roads and graded areas shall avoid tree clusters where possible. Significant trees, tree clusters, and heritage tree loss may occur, however, but shall be minimized.

Comment: While the project will require the widening of Rosemont Road, it is not anticipated that this construction will require the removal of significant trees.

f. If the protection of significant tree(s) or tree clusters is to occur in an area of grading that is necessary for the development of street grades, per City construction codes, which will result in an adjustment in the grade of over or under two feet, which will then threaten the health of the tree(s), the applicant will submit evidence to the Planning Director that all reasonable alternative grading plans have been considered and cannot work. The applicant will then submit a mitigation plan to the City Arborist to compensate for the removal of the tree(s) on an "inch by inch" basis (e.g., a 48-inch Douglas fir could be replaced by 12 trees, each four-inch). The mix of tree sizes and types shall be approved by the City Arborist.

Comment: The subject property is located on a hillside that poses difficulties in grading for streets, particularly those in cross-slope configurations such as Heron Ct. The natural grade falls 8 or more feet across the street section in this area. In the initial grading plan configuration of Heron Ct., the project engineer followed standard grading practice of matching the street grade to the centerline profile of the street. This resulted in significant grading on both sides of the road, with cuts on the uphill side and fills on the downhill side, together with a retaining wall at the bottom of the slope to avoid impacting the wetlands buffer. The grading plan below is for an earlier configuration of the site plan, but illustrates that the grading would have been extensive on both sides of the street and would have required the cutting of the significant trees throughout the graded area.



Original Grading Plan

In order to minimize grading impacts, the plan now proposed provides for a retaining wall along Rosemont Road and excavating the north side of Heron Ct. so that the street grade will match as closely as possible the natural grade on the downhill side of the street (see Grading Plan). This reduces the number of significant trees that will be impacted by the development by eliminating most of the fill on the downhill side of the street. A total of 23 significant trees are proposed to be cut due to grading impacts. The Tree Preservation Plan indicates the location of these trees and a table is provided showing the inch-for-inch number of mitigation trees that will need to be planted to satisfy the requirements of this section. Because the location of mitigation trees will be dependent upon the footprint of the homes to be built on the lot, the applicant proposes that a planting plan be prepared for each individual lot and submitted to the City Arborist for review at the time of building permit application.

Chapter 92: REQUIRED IMPROVEMENTS

92.010 PUBLIC IMPROVEMENTS FOR ALL DEVELOPMENT
The following improvements shall be installed at the expense of the developer and meet all City codes and standards:

A. Streets within subdivisions.
1. All streets within a subdivision, including alleys, shall be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority makes the following findings:

Comment: As shown on the Tentative Plan, the developer proposes to construct all streets within the subdivision to full City standards.

2. When the decision-making authority makes these findings, the decision-making authority may impose any of the following conditions of approval:

Comment: Not applicable. This subsection applies only when an applicant is proposing to construct less than full standard streets.

B. Extension of streets to subdivisions. The extension of subdivision streets to the intercepting paving line of existing streets with which subdivision streets intersect shall be graded for the full right-of-way width and improved to a minimum street structural section and width of 24 feet.

Comment: As shown on the Grading Plan submitted with this application, the proposed streets will be graded to their intersection with intersecting streets and improved to full City standards.

C. Local and minor collector streets within the rights-of-way abutting a subdivision shall be graded for the full right-of-way width and approved to the City's permanent improvement standards and specifications. The City Engineer shall review the need for street improvements and shall specify whether full street or partial street improvements shall be required. The City Engineer shall also specify the extent of storm drainage

improvements required. The City Engineer shall be guided by the purpose of the City's systems development charge program in determining the extent of improvements which are the responsibility of the subdivider.

Comment: As shown on the Grading Plan submitted with this application, the proposed streets will be graded for the full right-of-way and improved to City standards.

D. Monuments. Upon completion of the first pavement lift of all street improvements, monuments shall be installed and/or reestablished at every street intersection and all points of curvature and points of tangency of street centerlines with an iron survey control rod. Elevation benchmarks shall be established at each street intersection monument with a cap (in a monument box) with elevations to a U.S. Geological Survey datum that exceeds a distance of 800 feet from an existing benchmark.

Comment: Monumentation will be installed and/or reestablished at street intersections in accordance with this subsection.

E. Surface drainage and storm sewer system. A registered civil engineer shall prepare a plan and statement which shall be supported by factual data that clearly shows that there will be no adverse impacts from increased intensity of runoff off site of a 100-year storm, or the plan and statement shall identify all off-site impacts and measures to mitigate those impacts commensurate to the particular land use application. Mitigation measures shall maintain pre-existing levels and meet buildout volumes, and meet planning and engineering requirements.

Comment: The project engineer has prepared a storm drainage plan, as shown on the Utility Plan, and a storm report for this project. Please refer to those documents.

F. Sanitary sewers. Sanitary sewers shall be installed to City standards to serve the subdivision and to connect the subdivision to existing mains.

1. If the area outside the subdivision to be directly served by the sewer line has reached a state of development to justify sewer installation at the time, the Planning Commission may recommend to the City Council construction as an assessment project with such arrangement with the subdivider as is desirable to assure financing his share of the construction.

2. If the installation is not made as an assessment project, the City may reimburse the subdivider an amount estimated to be a proportionate share of the cost for each connection made to the sewer by property owners outside of the subdivision for a period of 10 years from the time of installation of the sewers. The actual amount shall be determined by the City Administrator considering current construction costs.

Comment: Sanitary sewers are available to this project from existing lines in Parker Rd. and Roxbury Dr. Sewer will be extended to service all lots within the development, as required by this subsection.

G. Water system. Water lines with valves and fire hydrants providing service to each building site in the subdivision and connecting the subdivision to City mains shall be installed. Prior to starting building construction, the design shall take into account provisions for extension beyond the subdivision and to adequately grid the City system.

Hydrant spacing is to be based on accessible area served according to the City Engineer's recommendations and City standards. If required water mains will directly serve property outside the subdivision, the City may reimburse the developer an amount estimated to be the proportionate share of the cost for each connection made to the water mains by property owners outside the subdivision for a period of 10 years from the time of installation of the mains. If oversizing of water mains is required to areas outside the subdivision as a general improvement, but to which no new connections can be identified, the City may reimburse the developer that proportionate share of the cost for oversizing. The actual amount and reimbursement method shall be as determined by the City Administrator considering current or actual construction costs.

Comment: Water lines will be installed within the proposed development and will connect to existing lines in Parker Rd. and Roxbury Dr. Additionally, the developer will replace and upgrade the existing water line in Rosemont Rd. to City standards and the system within the proposed subdivision will be connected to this line. Tying these lines together will improve the water system in this area by providing looping that will aid in maintaining appropriate flows and will avoid sedimentation associated with dead-end lines.

H. Sidewalks.

1. Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision, except that in the case of primary or secondary arterials, or special type industrial districts, or special site conditions, the Planning Commission may approve a subdivision without sidewalks if alternate pedestrian routes are available.

In the case of the double-frontage lots, provision of sidewalks along the frontage not used for access shall be the responsibility of the developer. Providing front and side yard sidewalks shall be the responsibility of the land owner at the time a request for a building permit is received. Additionally, deed restrictions and CC&Rs shall reflect that sidewalks are to be installed prior to occupancy and it is the responsibility of the lot or homeowner to provide the sidewalk, except as required above for double-frontage lots.

Comment: As required by this subsection, sidewalks will be installed along all street *frontages* in this development.

2. On local streets serving only single-family dwellings, sidewalks may be constructed during home construction, but a letter of credit shall be required from the developer to ensure construction of all missing sidewalk segments within four years of final plat approval pursuant to CDC 91.010(A)(2).

Comment: Sidewalks will be constructed during home construction on each lot. The required letter of credit will be provided.

3. The sidewalks shall measure at least six feet in width and be separated from the curb by a six-foot minimum width planter strip. Reductions in widths to preserve trees or other topographic features, inadequate right-of-way, or constraints, may be permitted if approved by the City Engineer in consultation with the Planning Director.

Comment: Sidewalks will be installed to City specifications.

4. Sidewalks should be buffered from the roadway on high volume arterials or collectors by landscape strip or berm of three and one-half-foot minimum width.

Comment: The proposed plans provide for a landscape strip between the sidewalk and the roadway along minor arterial streets abutting this property.

5. The City Engineer may allow the installation of sidewalks on one side of any street only if the City Engineer finds that the presence of any of the factors listed below justifies such waiver:
a. The street has, or is projected to have, very low volume traffic density;
b. The street is a dead-end street;
c. The housing along the street is very low density; or
d. The street contains exceptional topographic conditions such as steep slopes, unstable soils, or other similar conditions making the location of a sidewalk undesirable.

Comment: Sidewalks are proposed on both sides of all streets within this subdivision.

I. Bicycle routes. If appropriate to the extension of a system of bicycle routes, existing or planned, the Planning Commission may require the installation of separate bicycle lanes within streets and separate bicycle paths.

Comment: The street section along Rosemont Rd. and Parker Rd. provides for bicycle routes. No routes are called for on the local streets within this subdivision.

J. Street name signs. All street name signs and traffic control devices for the initial signing of the new development shall be installed by the City with sign and installation costs paid by the developer.

Comment: The developer will provide all required signs, consistent with City standards.

K. Dead-end street signs. Signs indicating "future roadway" shall be installed at the end of all discontinued streets. Signs shall be installed by the City per City standards, with sign and installation costs paid by the developer.

Comment: Not applicable. No dead-end streets are proposed.

L. Signs indicating future use shall be installed on land dedicated for public facilities (e.g., parks, water reservoir, fire halls, etc.). Sign and installation costs shall be paid by the developer.

Comment: The developer will provide signs designating future use for the proposed park dedication, as required by this section.

M. Street lights. Street lights shall be installed and shall be served from an underground source of supply. The street lighting shall meet IES lighting standards. The street lights shall be the shoe-box style light (flat lens) with a 30-foot bronze pole in residential (non-intersection) areas. The street light shall be the cobra head style (drop lens) with an approximate 50-foot (sized for intersection width) bronze pole. The

developer shall submit to the City Engineer for approval of any alternate residential, commercial, and industrial lighting, and alternate lighting fixture design. The developer and/or homeowners association is required to pay for all expenses related to street light energy and maintenance costs until annexed into the City.

Comment: Street lights will be installed by the developer, consistent with the requirements of this subsection.

N. Utilities. The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, shall be placed underground.

Comment: The developer will coordinate with utility companies for the installation of underground facilities for electrical, cable, natural gas, telephone, and street lighting. As required by this section.

O. Curb cuts and driveways. Curb cuts and driveway installations are not required of the subdivider at the time of street construction, but, if installed, shall be according to City standards. Proper curb cuts and hard-surfaced driveways shall be required at the time buildings are constructed.

Comment: Curb cuts will be installed at the time of home construction and will be installed to City standards.

P. Street trees. Street trees shall be provided by the City Parks and Recreation Department in accordance with standards as adopted by the City in the Municipal Code. The fee charged the subdivider for providing and maintaining these trees shall be set by resolution of the City Council.

Comment: The developer will coordinate with the City Parks and Recreation Department regarding installation of street trees and will be responsible for paying the appropriate fee.

Q. Joint mailbox facilities shall be provided in all residential subdivisions, with each joint mailbox serving at least two, but no more than eight, dwelling units. Joint mailbox structures shall be placed in the street right-of-way adjacent to roadway curbs. Proposed locations of joint mailboxes shall be designated on a copy of the tentative plan of the subdivision, and shall be approved as part of the tentative plan approval. In addition, sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval. (Ord. 1180, 1986; Ord. 1192, 1987; Ord. 1287, 1990; Ord. 1321, 1992; Ord. 1339, 1993; Ord. 1401, 1997; Ord. 1408, 1998; Ord. 1442, 1999)

Comment: The developer will coordinate with the US Postal Service and the City Engineer regarding the location of joint mailbox clusters and will install them in accordance with this section.

CHAPTER 28 - WILLAMETTE AND TUALATIN RIVER PROTECTION

City Planning staff has indicated that they have adopted a new policy determining that the provisions of Chapter 28 are applicable to developments containing Habitat Conservation Areas shown on City mapping. The applicant strongly disagrees with this interpretation. These provisions have never been applied to other developments outside of the Willamette River and Tualatin River Greenways, and we believe that this interpretation is in direct conflict with the plain language of that section. Although we are paying the required fee deposit and will address the language of this section, we request that the Planning Commission determine that these provisions do not, in fact, apply and that the fee deposit be refunded.

28.030 APPLICABILITY

A. The Willamette and Tualatin River Protection Area is an overlay zone. The zone boundaries are identified on the City's zoning map, and include:

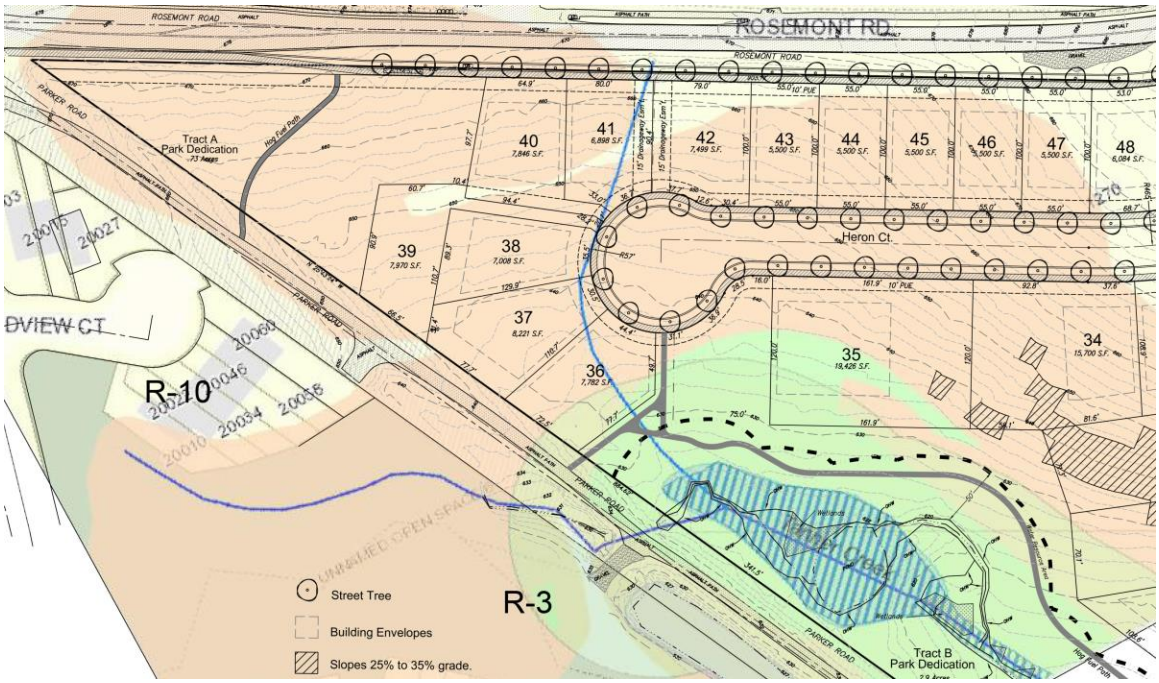
1. All land within the City of West Linn's Willamette River Greenway Area.

2. All land within 200 feet of the ordinary low water mark of the Tualatin River, and all land within the 100-year floodplain of the Tualatin River.

3. In addition to the Willamette Greenway and Tualatin River Protection Area boundaries, this chapter also relies on the HCA Map to delineate where development should or should not occur. Specifically, the intent is to keep out of, or minimize disturbance of, the habitat conservation areas (HCAs). Therefore, if all, or any part, of a lot or parcel is in the Willamette Greenway and Tualatin River Protection Area boundaries, and there are HCAs on the lot or parcel, a Willamette and Tualatin River Protection Area permit shall be required unless the development proposal is exempt per CDC 28.040.

Comment: The subject property is not within the identified Willamette River Greenway or within 200 feet of the ordinary low water mark of the Tualatin River. The Planning staff interpretation is based upon subsection 28.030(A)3. The site contains a minor area of HCA outside of the Water Resource Area boundary and staff's opinion is that the language of this subsection makes these provisions applicable to this project. However, we note that the plain language states that "*if all, or any part, of a lot or parcel is in the Willamette Greenway and Tualatin River Protection Area boundaries,* ***and*** *there are HCAs on the lot or parcel, a Willamette and Tualatin River Protection Area permit shall be required"* (emphasis added). The property must be within one of the river areas and have an HCA before the provisions of subsection 28.030(A)3 apply. This has been the consistent policy of the City of West Linn for years sense the adoption of this Chapter. The property is not in either river resource area and, therefore, this chapter is not applicable despite there being Habitat Conservation Area on the property.

The map below shows the Habitat Conservation Area in question relative to the proposed site plan:



If the provisions of he green HCA shading that extends into Lot 35 is problematic for this application if the provisions of Chapter 28.110B were applicable. For the reasons discussed above, the applicant believes these provisions are not applicable.

Chapter 75 – Variance

As discussed above in this report, the Tentative Plan proposes a cul-de-sac street having a length of more than 200 feet, which requires approval of a variance. The proposed variance satisfies the approval criteria as follows:

B. Class II Variance. Class II variances may be utilized when strict application of code requirements would be inconsistent with the general purpose of the CDC and would create a burden upon a property owner with no corresponding public benefit. A Class II variance will involve a significant change from the code requirements and may create adverse impacts on adjacent property or occupants. It includes any variance that is not classified as a Class I variance or special waiver.

1. Class II Variance Approval Criteria. The approval authority may impose appropriate conditions to ensure compliance with the criteria. The appropriate approval authority shall approve a variance request if all the following criteria are met and corresponding findings of fact prepared.

a. The variance is the minimum variance necessary to make reasonable use of the property. To make this determination, the following factors may be considered, together with any other relevant facts or circumstances:

1) Whether the development is similar in size, intensity and type to developments on other properties in the City that have the same zoning designation.

2) Physical characteristics of the property such as lot size or shape, topography, or the existence of natural resources.

3) The potential for economic development of the subject property.

Comment: The application proposes a cul-de-sac (Heron Ct.) to service the western portion of the property. Access to that area is needed in order to achieve reasonable density for this site, as demonstrated by the density calculations submitted with this application. Not extending a street into that area would require that lot sizes elsewhere be much smaller; something that neighbors were seriously opposed to at the neighborhood meeting.

b. The variance will not result in violation(s) of any other code standard, and the variance will meet the purposes of the regulation being modified.

Comment: No other code provisions would be violated by granting this variance. All lots would have adequate access and the number of homes accessed by the cul-de-sac would not exceed the 25 lot maximum standard.

c. The need for the variance was not created by the applicant and/or owner requesting the variance.

Comment: The need for the variance relates to the physical characteristics of the property. Specifically, the fact that the Parker Rd. pedestrian trail abuts the property on its western border precludes connecting to other streets to the west. Similarly, the grade of the property, which drops significantly from Rosemont Road, precludes providing an additional intersection with that street so as to avoid a cul-de-sac configuration. Further, sight distance issues would not allow for an additional intersection in that area.

d. If more than one variance is requested, the cumulative effect of the variances results in a project that is consistent with the overall purpose of the zone.

Comment: The applicant is only proposing one variance.

AFFIDAVIT OF POSTING

STATE OF OREGON)
) SS
County of Clackamas)

I, Richard Givens, Planning Consultant for Icon Construction and Development, LLC, in the case of Tanner Ridge at Rosemont Planned Unit Development Subdivision, declare that on February 23, 2016, pursuant to Chapter 99.083 of the West Linn Community Development Code. a sign providing notice of a neighborhood meeting to discuss the proposed 6 lot project. The sign exceeded the required 11" x 17" standard and was posted on the subject property's frontage at 1270 Rosemont Road, as well as its frontage on Parker Road.

Richard Givens
RICHARD GIVENS
PLANNING CONSULTANT

April 4, 2016
DATE

OFFICIAL STAMP
RENEE L. GONZALES
NOTARY PUBLIC-OREGON
COMMISSION NO. 944398
MY COMMISSION EXPIRES NOVEMBER 03, 2019

4/4/16
Renee L. Gonzales

RECEIVED
APR 04 2016
PLANNING & BUILDING
CITY OF WEST LINN
INT. _____ TIME _____

AFFIDAVIT OF NOTICE

STATE OF OREGON)
) SS
County of Clackamas)

I, Richard Givens, Planning Consultant for Icon Construction and Development, LLC, declare that on February 23, 2016 notice of a neighborhood meeting was provided, in the case of the Tanner Ridge at Rosemont Planned Unit Development Subdivision, pursuant to Chapter 99.083 of the West Linn Community Development Code. Notice was mailed to property owners within 500 feet of the project site, and to the Parker Crest, Savanna Oaks and Hidden Springs neighborhood associations. This notice was for the a 52-lot planned unit development, which has subsequently been reduced to 50 lots.

Richard Givens

RICHARD GIVENS
PLANNING CONSULTANT

April 4, 2016
DATE

OFFICIAL STAMP
RENEE L. GONZALES
NOTARY PUBLIC-OREGON
COMMISSION NO. 944398
MY COMMISSION EXPIRES NOVEMBER 03, 2019

4/4/16
Renee L. Gonzales

Rick Givens
Planning Consultant
18680 Sunblaze Dr.
Oregon City, Oregon 97045

February 23, 2016

Mr. William Relyea, President
Ms. Claudia Relyea, Treasurer
Parker Crest Neighborhood Association
3016 Sabo Lane
West Linn, OR 97068

Dear Mr. & Mrs. Relyea:

I'd like to thank you for your assistance in arranging a neighborhood meeting date for the proposed development of property located at 1270 Rosemont Road. Our correspondence to date has been via email, but this letter is being sent to you to fulfill the technical requirements of Section 99.038C of the West Linn Community Development Code that we contact you via certified mail to arrange the date for the meeting. Just to confirm, the date you proposed of March 16, 2016 at the West Linn Adult Community Center will work fine for us and we will be sending out the required neighborhood notice letters for that time and place.

Thanks again,

Rick Givens

Rick Givens

cc: Icon Construction & Development, LLC

phone: 503-479-0097 | fax: 503-479-0097 | e-mail: rickgivens@gmail.com

Notice of Neighborhood Meeting Regarding
A Proposed 52-Lot Planned Unit Development Subdivision
Located at 1270 Rosemont Road

Hello,

You are invited to attend a neighborhood meeting to discuss a proposed development in your area. Icon Construction & Development, LLC is proposing to construct a 52-lot Planned Unit Development subdivision on property located at 1270 Rosemont Road in West Linn.

As required by the West Linn Community Development Code, prior to the submittal of an application to the City of West Linn for preliminary approval of this project, a meeting with neighbors will be held to present the conceptual plan for the project, to answer questions and for the developer to receive feedback from those in attendance. This notice of the meeting is being mailed to owners of property located within 500 feet of the boundaries of the subject property. The notice is also being mailed to officers of the Parker Crest, Savanna Oaks and Hidden Springs/Rosemont Neighborhood Associations. The property is located within the Parker Crest Neighborhood Association boundaries and is within 500 feet of the Savanna Oaks and Hidden Springs/Rosemont Neighborhood Association boundaries.

The proposed development is scheduled to be presented at a March 16, 2016 meeting of the Parker Crest Neighborhood Association. There may be other items on the agenda in addition to this project. Meeting time and place are:

7:00 PM, Wednesday, March 16, 2016.
West Linn Adult Community Center
1180 Rosemont Rd.
West Linn, Oregon

We look forward to meeting with you. If you cannot attend in person but have questions regarding the project, please feel free to contact the project planning consultant, Rick Givens. You may phone him at (503) 479-0097 or contact him via email at rickgivens@gmail.com.

Notice of Neighborhood Meeting

Regarding A Proposed
52-Lot Planned Unit Development Subdivision for Property
Located at 1270 Rosemont Road

You are invited to attend a neighborhood meeting to discuss a proposed development on this property. The project will be presented at a March 16, 2016 meeting of the Parker Crest Neighborhood Association. Other items may be on the agenda in addition to this one.

The applicant for this project is Icon Construction & Development, LLC. Additional information may be obtained by telephoning the project planning consultant, Rick Givens, at (503) 479-0097 or by email at rickgivens@gmail.com.

The meeting time and place are:

7:00 PM on Wednesday, March 16, 2016
Adult Community Center
1180 Rosemont Rd
West Linn, Oregon

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

William & Claudia Relyea
3016 Sabo Lane
West Linn, OR 97068

9590 9403 0591 5183 3127 84

2. Article Number *(Transfer from service label)*

7015 1730 0001 1229 7956

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* [William Relyea]

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

FEB 25 2016 USPS

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ ured Mail
- ☐ ured Mail Restricted Delivery
- ☐ er $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, April 2015 PSN 7530-02-000-9053 Domestic Return Receipt

7015 1730 0001 1229 7956

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WEST LINN OR 97068

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☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	N/A
☐ Adult Signature Restricted Delivery	N/A
Postage	$0.49
Total Postage and Fees	$6.74

0126 07 Postmark Here FEB 23 2016 02/23/2016 USPS

Sent To: William & Claudia Relyea
Street and Apt. No., or PO Box No.: 3016 Sabo Lane
City, State, ZIP+4®: West Linn, OR 97068

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

CITY OF West Linn

PROJECT # PUD-16-01/SUB-16-01/WAP-16-05/ VAR-16-01/WRG-16-01

CITIZEN CONTACT INFORMATION

To lessen the bulk of agenda packets, land use application notice, and to address the worries of some City residents about testimony contact information and online application packets containing their names and addresses as a reflection of the mailing notice area, this sheet substitutes for the photocopy of the testimony forms and/or mailing labels. A copy is available upon request.

Tanner Ridge at Rosemont

Neighborhood Meeting Notes

March 16, 2016

A neighborhood meeting of the Parker Crest Neighborhood Association was held on March 16, 2016 at 7:00 PM at the West Linn Adult Community Center, 1180 Rosemont Road, West Linn, OR. Rick Givens, Planning Consultant, and Mark Handris of Icon Construction and Development, LLC were in attendance to present the proposed development for a Planned Unit Development subdivision located at 1280 Rosemont Road. Mr. Givens made introductory comments regarding the nature of the proposed development, noting that it was planned as a 52 lot development for single-family detached homes. He explained the process and anticipated timeline for the submittal and review of the application and then opened the floor for questions and comments. These are summarized below:

Traffic – Several neighbors on Roxbury Drive expressed concerns about the potential for cut-through traffic from Rosemont Road to Parker Road making use of Roxbury Drive. Questions were asked as to why a more direct route through the project couldn't be designed to reduce the potential for this impact. Mr. Givens explained that there are street grade and intersection sight distance issues to be considered. He also noted that the traffic report didn't identify any major traffic making use of that route, but he said that he would look at that issue again. Some neighbors were in favor of closing Roxbury entirely, or installing speed humps. Mr. Givens noted that they could make those requests of the City during the review of the project. Some suggested making the project a gated community, but Mr. Givens noted that would conflict with City standards.

Timing of Construction – Questions were asked about when the project would begin construction and what the timetable would be. Mr. Givens and Mr. Handris explained that the project would have to complete the review process through the City of West Linn and that it was difficult to know how long that would take. Mr. Handris indicated that this project would likely begin site development in Spring of 2017. Site development would take about 4 months and homes would be built over approximately a 2 year period.

Type of Homes – Questions were asked regarding the type of homes and pricing. Mr. Handris said there would be a mix of spec and custom homes. All homes will be single-family detached. Home sizes will begin at about 2,800 sq. ft., with sizing dependent upon lot size and lot coverage standards. Home prices will begin at around $700,000.

Rosemont Road Widening – People were interested in whether Rosemont Road would be widened. Mr. Givens noted that frontage improvements would be made along that street to widen it to City Minor Arterial standards.

Schools – Questions were asked about what schools would serve the site and whether there would be problems with traffic congestion during pick-up and drop-off times. Mr. Givens said he wasn't sure exactly which primary and middle schools would be involved, but said he would check with West Linn School District.

Fencing – Neighbors on Roxbury wanted to know whether homes would be fenced. Mr. Handris said fencing of rear yards was typically provided. They would coordinate with neighbors regarding existing fences.

Storm Drainage – Neighbors on Roxbury noted that they have drainage issues and wanted assurance that the development would not impact their homes with run-off. Mr. Givens noted that the site would be served with storm sewers and would provide for storm water detention in the open space area. He also noted that existing ephemeral streams would be channeled through drainageways to the stream corridor.

Home Size – Some neighbors objected to large homes on small lots. Mr. Handris noted that the City has standards regarding lot coverage and floor area ratios that relate to lot size. He said homes would be similar to the Douglas Grove project that Icon developed in West Linn and suggested that people could look at that development as an example.

Phasing – Mr. Handris answered a question regarding phasing by noting the project would be built in a single phase.

Construction Traffic – Mr. Handris assured neighbors that construction traffic would not use local streets. A project construction entrance will be developed and construction traffic will make use of that.

Parker Crest Neighborhood Association wants to provide for sidewalk continuity for the off-site property to the east and noted that they have some funds that could be used for that purpose.

Concerns were expressed about construction traffic interfering with school traffic. Mr. Handris indicated that they would try to coordinate with the School District on this concern.

TANNER RIDGE AT ROSEMONT
TRAFFIC IMPACT STUDY

WEST LINN, OREGON

DATE:
March 9, 2016

PREPARED FOR:
Mark Handris
Icon Construction & Development LLC

PREPARED BY:
Daniel Stumpf, EI
William Farley, PE
Michael Ard, PE

RENEWS: 12/31/2017

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. A subdivision has been proposed for development on approximately 15.82 acres located at 1270 Rosemont Road in West Linn, Oregon. The proposed subdivision will consist of 52 lots, each to contain a single-family detached dwelling. Internal streets will serve each lot that are accessed from Rosemont Road, Parker Road, and Roxbury Drive.

2. The trip generation calculations show that the proposed 52-lot subdivision is projected to generate up to 39 site trips during the morning peak hour, 52 site trips during the evening peak hour, and up to a total of 496 daily trips.

3. Based on the results of the operational analysis, all study intersections are currently operating acceptably per City of West Linn standards and are projected to continue operating acceptably through year 2018 either with or without the addition of site trips resulting from the proposed development. No operational mitigation is necessary or recommended.

4. A detailed examination of the most recent five years of crash reports at the study intersections shows no significant safety concerns and no trends that are indicative of design deficiencies. No safety mitigations are recommended.

5. Based on the detailed analysis, adequate sight distance is available for the proposed site accesses along Rosemont Road and Parker Road. No sight distance mitigation is necessary or recommended.

6. Left-turn lane warrants are not projected to be met for any of the study intersections where such treatments would be applicable under any of the year 2018 analysis scenarios. No new turn lanes are recommended.

7. Due to insufficient main and side-street traffic volumes, traffic signal warrants will not be met for any of the unsignalized study intersections under any analysis scenarios through year 2018.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

A 52-lot subdivision has been proposed for development on approximately 15.82 acres located at 1270 Rosemont Road in West Linn, Oregon. Each lot will contain a single-family detached dwelling served by an internal street network accessed from Rosemont Road, Parker Road, and Roxbury Drive.

This report addresses the transportation impacts of the proposed development on the nearby street system. Based on conversations with Khoi Le with the City of West Linn, analysis was required at the following intersections:

1. Rosemont Road at Salamo Road/Santa Anita Drive;
2. Site access at Rosemont Road;
3. Rosemont Road at Wild Rose Drive;
4. Salamo Road at Parker Road/Brandywine Drive;
5. Site access at Parker Road; and
6. Wild Rose Drive at Roxbury Drive.

The purpose of this study is to determine whether the transportation system in the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

LOCATION DESCRIPTION

The subject property is located south of and adjacent to Rosemont Road, north of and adjacent to Parker Road, west of Wild Rose Drive, and east of Salamo Road in West Linn, Oregon. The project site is currently vacant and undeveloped.

The subject site is located in a predominantly residential area. More specifically, single-family detached homes and Oppenlander Field are located to the north, single-family detached homes are located to the east, Tanner Creek Park is located to the south, row houses are located to the southwest, and Rosemont Ridge Middle School is located to the west of the project site. Other notable developments within a half-mile walking distance from the project site include an adult community center, Cascade Summit Montessori School, a Safeway Grocery Store, and West Linn City Hall.

VICINITY STREETS

Rosemont Road is classified by the City of West Linn as a Minor Arterial. The roadway has a two-lane cross-section and has a posted speed of 25 mph in the site vicinity. A school speed zone is in effect on school days from 7:00 AM to 5:00 PM between approximately 200 feet east and

approximately 600 feet west of Salamo Road. Curbs, sidewalks, and bicycle lanes are intermittently provided along both sides of the roadway.

Salamo Road is classified by the City of West Linn as a Minor Arterial. The roadway has a three-lane cross-section, with one travel lane in each direction and a center raised median, and has a posted speed of 35 mph. A school speed zone is in effect on school days from 7:00 AM to 5:00 PM from approximately 180 feet south of Hoodview Avenue and extends past Rosemont Road onto Santa Anita Drive. Curbs, sidewalks, and bicycle lanes are provided along both sides of the roadway.

Santa Anita Drive is classified by the City of West Linn as a Minor Arterial. The roadway has a two-lane cross-section and has a posted speed limit of 25 mph. A school speed zone is in effect on school days from 7:00 AM to 5:00 PM from approximately 200 feet north of Rosemont Road and extends past Rosemont Road onto Salamo Road. Curbs, sidewalks, and bicycle lanes are provided along both sides of the roadway.

Parker Road is classified by the City of West Linn as a Minor Arterial. The roadway has a two-lane cross-section east and a three-lane cross-section, with one travel lane in each direction and a center raised median, west of Noble Lane. It has a posted speed of 35 mph. Partial curbs, sidewalks and bicycle lanes are provided along both sides of the roadway; however, these facilities are not available on either side of the road in the immediate site vicinity.

Brandywine Drive is classified by the City of West Linn as a Local Street. The roadway has a two-lane cross-section without centerline striping delineating directional travel lanes, except within approximately 140 feet of the intersection of Salamo Road at Parker Road/Brandywine Drive. It does not have a posted speed limit; however, a statutory residential speed of 25 mph applies. Curbs and bicycle lanes are provided along both sides of the roadway while sidewalks are only provided along the south side for approximately 200 feet east of Salamo Road at Parker Road/Brandywine Drive.

Wild Rose Drive is classified by the City of West Linn as a Neighborhood Route. The roadway has a two-lane cross-section without centerline striping delineating directional travel lanes, and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway except between Parker Road and Wild Rose Loop south of Parker Road. Curbs and sidewalks are provided along both sides of the roadway.

Roxbury Drive is classified by the City of West Linn as a Local Street. The roadway has a two-lane cross-section without centerline striping delineating directional travel lanes. It does not have a posted speed limit; however, a statutory residential speed of 25 mph applies. On-street parking is permitted along both sides of the roadway. Curbs and sidewalks are provided along both sides of the roadway.

STUDY INTERSECTIONS

The intersection of Rosemont Road at Salamo Road/Santa Anita Drive is a four-legged intersection that is controlled by a traffic signal. The northbound and southbound approaches each have one left-turn lane served by permitted/protected phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The eastbound and westbound approaches of

Rosemont Road each have one left-turn lane served by permitted phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across all intersections legs.

The intersection of Rosemont Road at Wild Rose Drive is a four-legged intersection that is stop-controlled for the northbound and southbound approaches. The intersection approaches each have one shared lane for all turning movements. The north leg of the intersection is formed by a private driveway for a church.

The intersection of Salamo Road at Parker Road/Brandywine Drive is a four-legged intersection that is stop-controlled for the eastbound and westbound approaches. The intersection approaches each have one left-turn lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across all intersection legs.

The intersection of Wild Rose Drive at Roxbury Drive is a four-legged intersection that is stop-controlled for the eastbound and westbound approaches of Roxbury Drive. The intersection approaches each have a single, shared lane for all turning movements. A crosswalk is marked across the southern intersection leg.

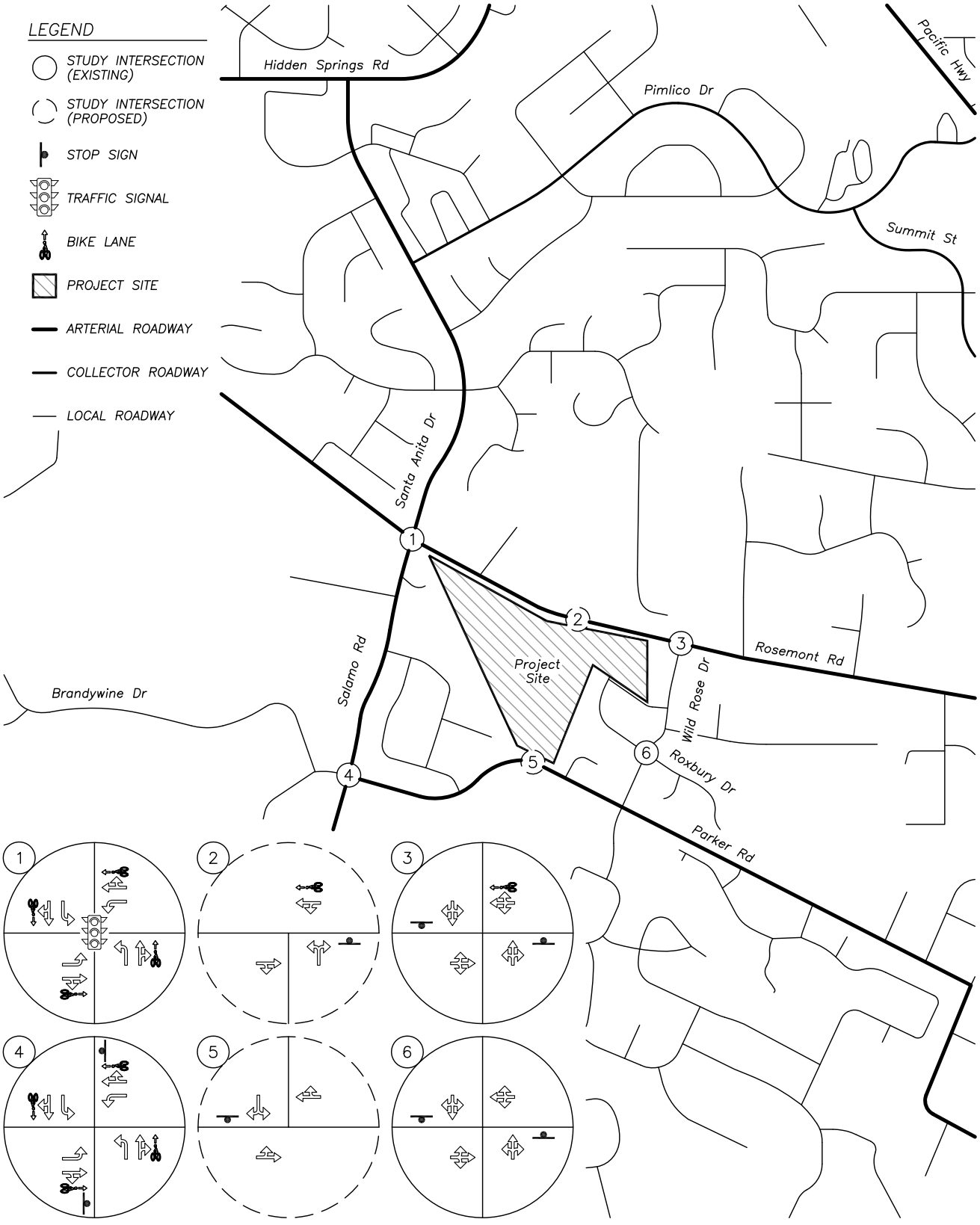
A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 7.

TRAFFIC COUNTS

Traffic counts were conducted at the intersections of Rosemont Road at Salamo Road/Santa Anita Drive, Rosemont Road at Wild Rose Drive, and Salamo Road at Parker Road/Brandywine Drive on Wednesday, January 27th, 2016, from 7:00 AM to 9:00 PM and on Tuesday, January 26th, 2016, from 4:00 PM to 6:00 PM. Data was used from each intersection's morning and evening peak hours.

Traffic volumes for the intersection of Wild Rose Drive at Roxbury Drive were determined by balancing traffic volumes with the intersection of Rosemont Road at Wild Rose Drive. Turning volumes onto and off of Roxbury Drive were estimated using trip generation based on the number of single-family detached homes that would utilize the roadway.

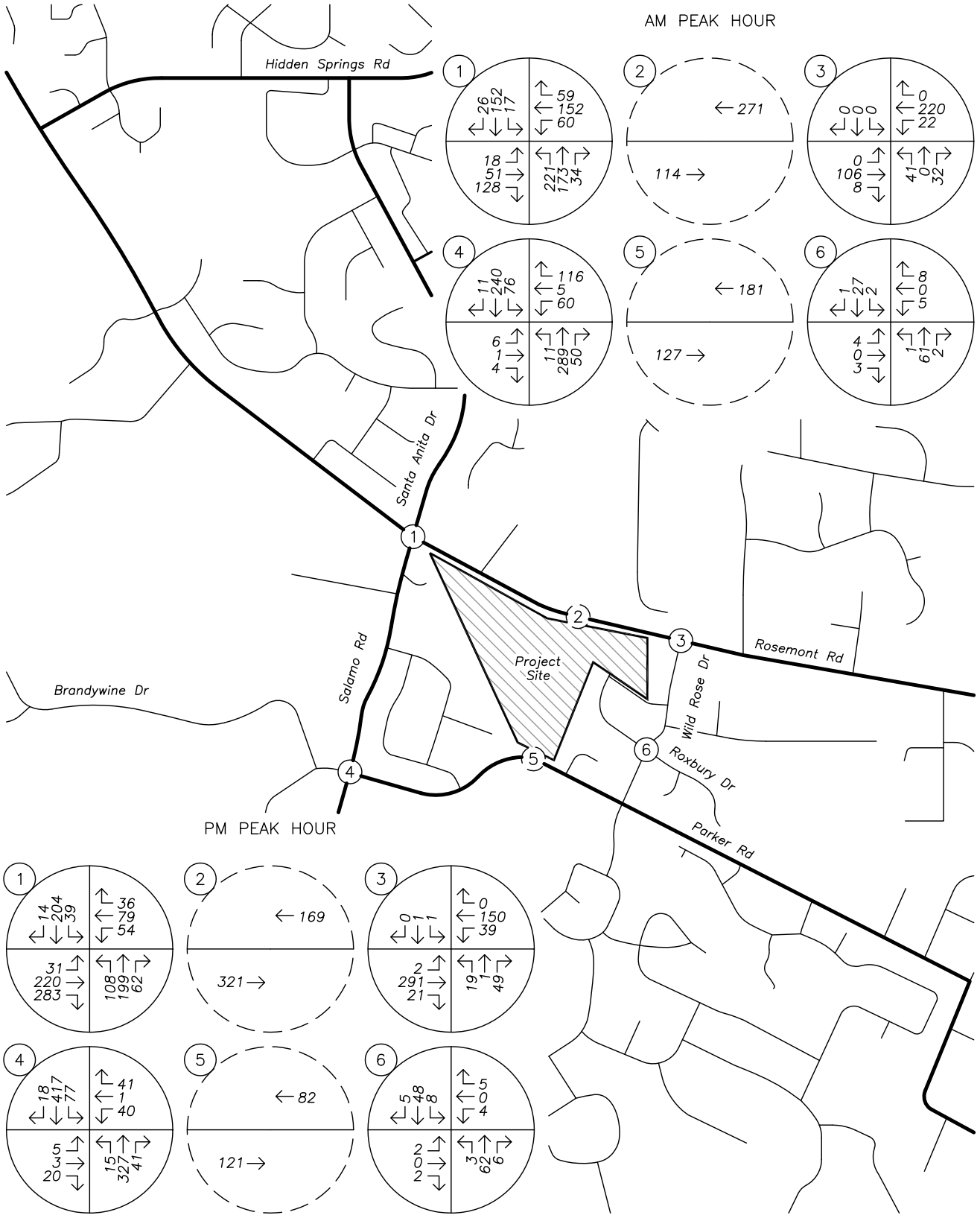
Figure 2 on page 8 shows the existing morning and evening peak hour traffic volumes at the study intersections.



VICINITY MAP

no scale

FIGURE 1



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours

no scale

FIGURE 2

SITE TRIPS

TRIP GENERATION

The proposed development will construct a 52-lot subdivision within the project site. To estimate the number of trips that will be generated by the proposed development, trip rates from the *TRIP GENERATION MANUAL*[1] were used. Data from land-use code 210, *Single-Family Detached Housing*, was used to estimate the proposed development's trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed development is projected to generate 39 site trips during the morning peak hour, 52 site trips during the evening peak hour, and a total of 496 weekday trips. The trip generation estimates are summarized in Table 1 and detailed trip generation calculations are included in the technical appendix to this report.

Table 1 - Trip Generation Summary

	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Proposed Subdivision	210	52 units	10	29	39	33	19	52	496

TRIP DISTRIBUTION

The directional distribution of site trips to/from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at study intersections. The following trip distribution was estimated and used for analysis:

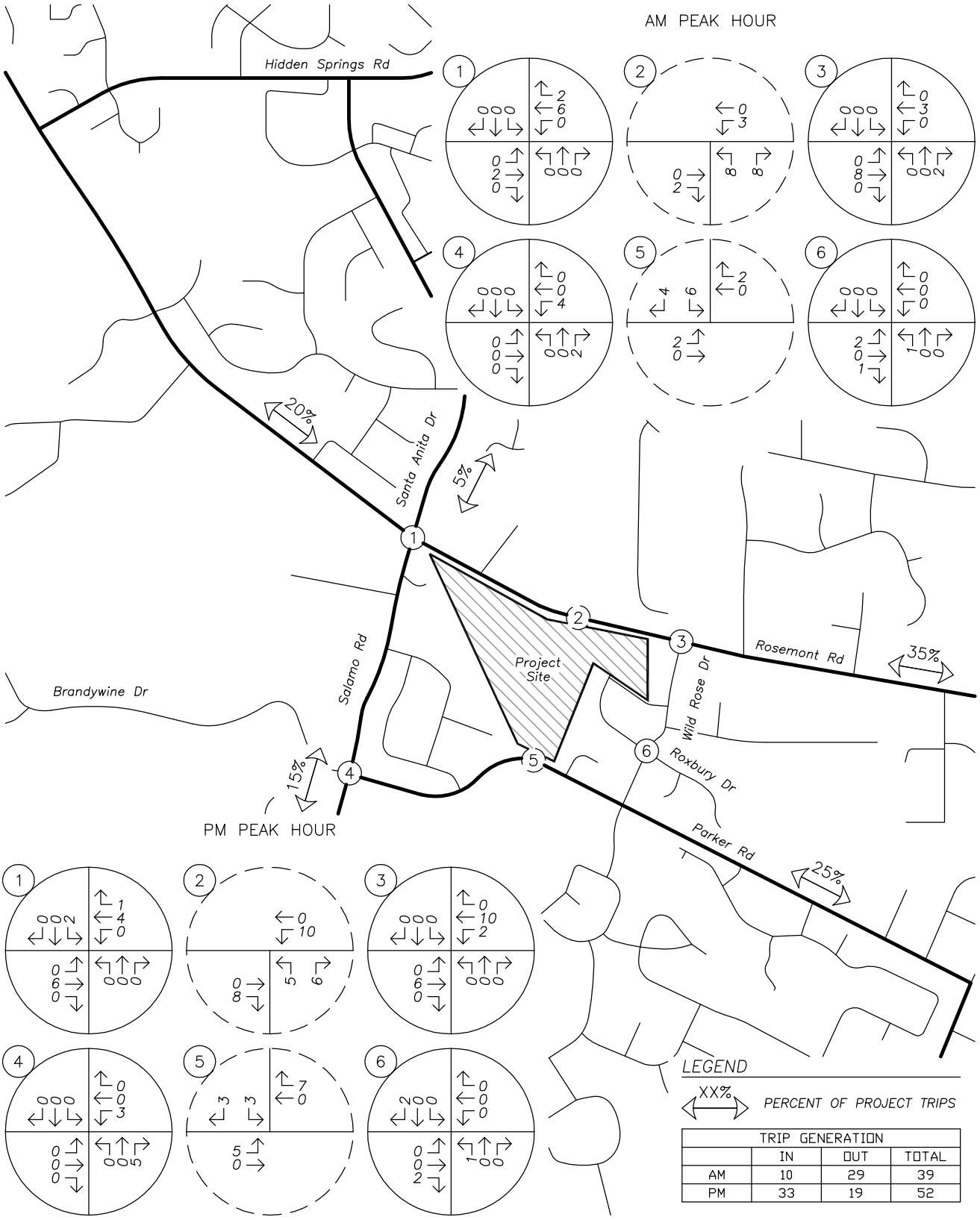
- Approximately 35 percent of site trips will travel to/from the east along Rosemont Road;
- Approximately 25 percent of site trips will travel to/from the east along Parker Road;
- Approximately 20 percent of site trips will travel to/from the west along Rosemont Road;
- Approximately 15 percent of site trips will travel to/from the south along Salamo Road; and
- Approximately 5 percent of site trips will travel to/from the north along Santa Anita Drive.

Trips to and from the proposed development are anticipated to utilize three site accesses. Based on the site layout and access locations, site trips are anticipated to utilize site accesses accordingly.

- Approximately 55 percent of site trips will utilize the site access at Rosemont Road;
- Approximately 35 percent of site trips will utilize the site access at Parker Road; and
- Approximately 10 percent of site trips will utilize Roxbury Drive.

The trip assignment for the site trips generated by the proposed development during the morning and evening peak hours is shown in Figure 3 on page 10.

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION MANUAL*, 9th Edition, 2012.



TRIP GENERATION			
	IN	OUT	TOTAL
AM	10	29	39
PM	33	19	52

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 3

OPERATIONAL ANALYSIS

BACKGROUND VOLUMES

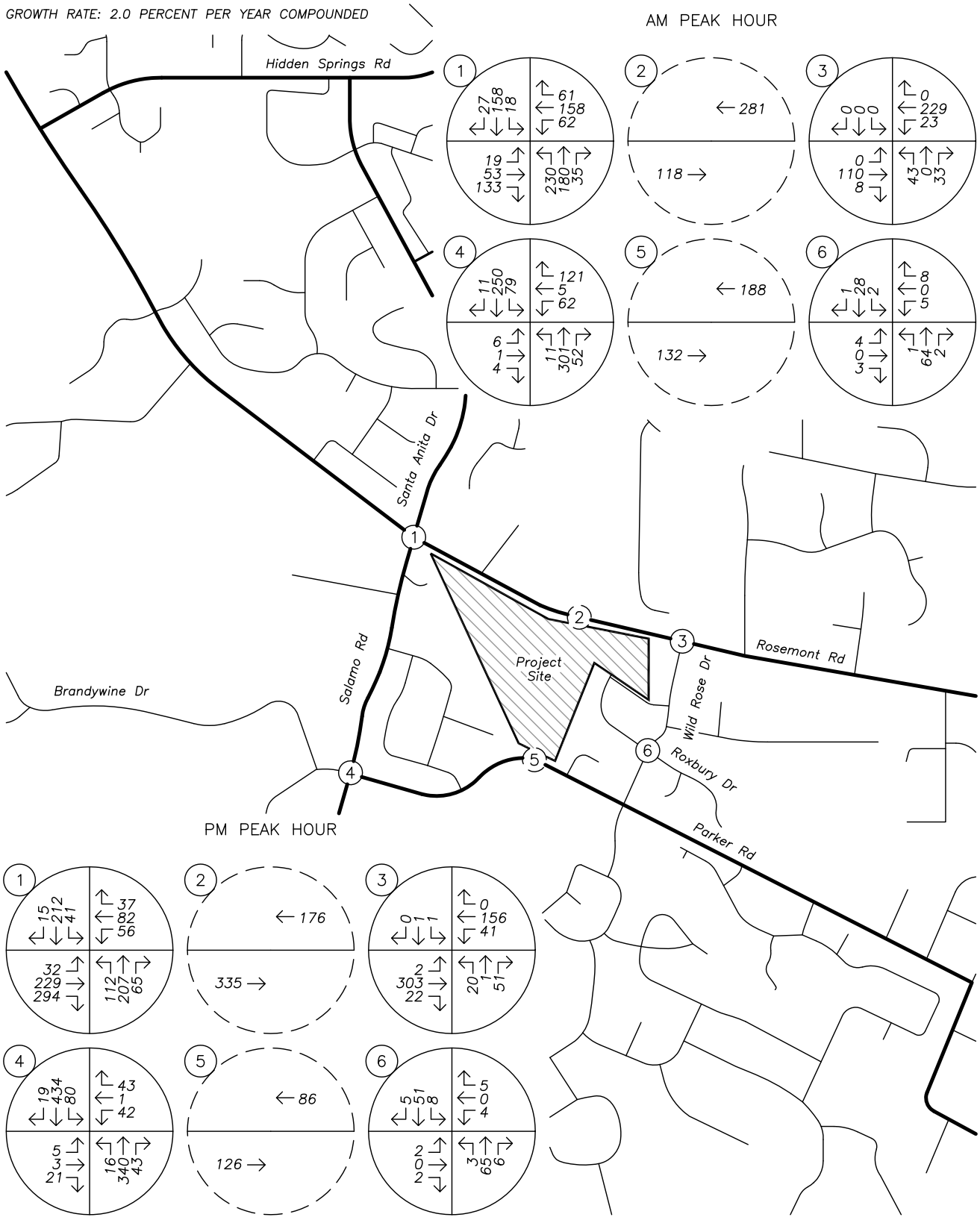
To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. In order to calculate the future traffic volumes, a compounded growth rate of two percent per year for an assumed build-out condition of two years was applied to the measured existing traffic volumes to approximate year 2018 background conditions.

Figure 4 on page 12 shows the projected year 2018 background traffic volumes for the morning and evening peak hours at the study intersections.

BACKGROUND VOLUMES PLUS SITE TRIPS

Peak hour trips calculated to be generated from the proposed development, as described earlier within the Site Trips section, were added to the projected year 2018 background traffic volumes to obtain the expected 2018 background volumes plus site trips.

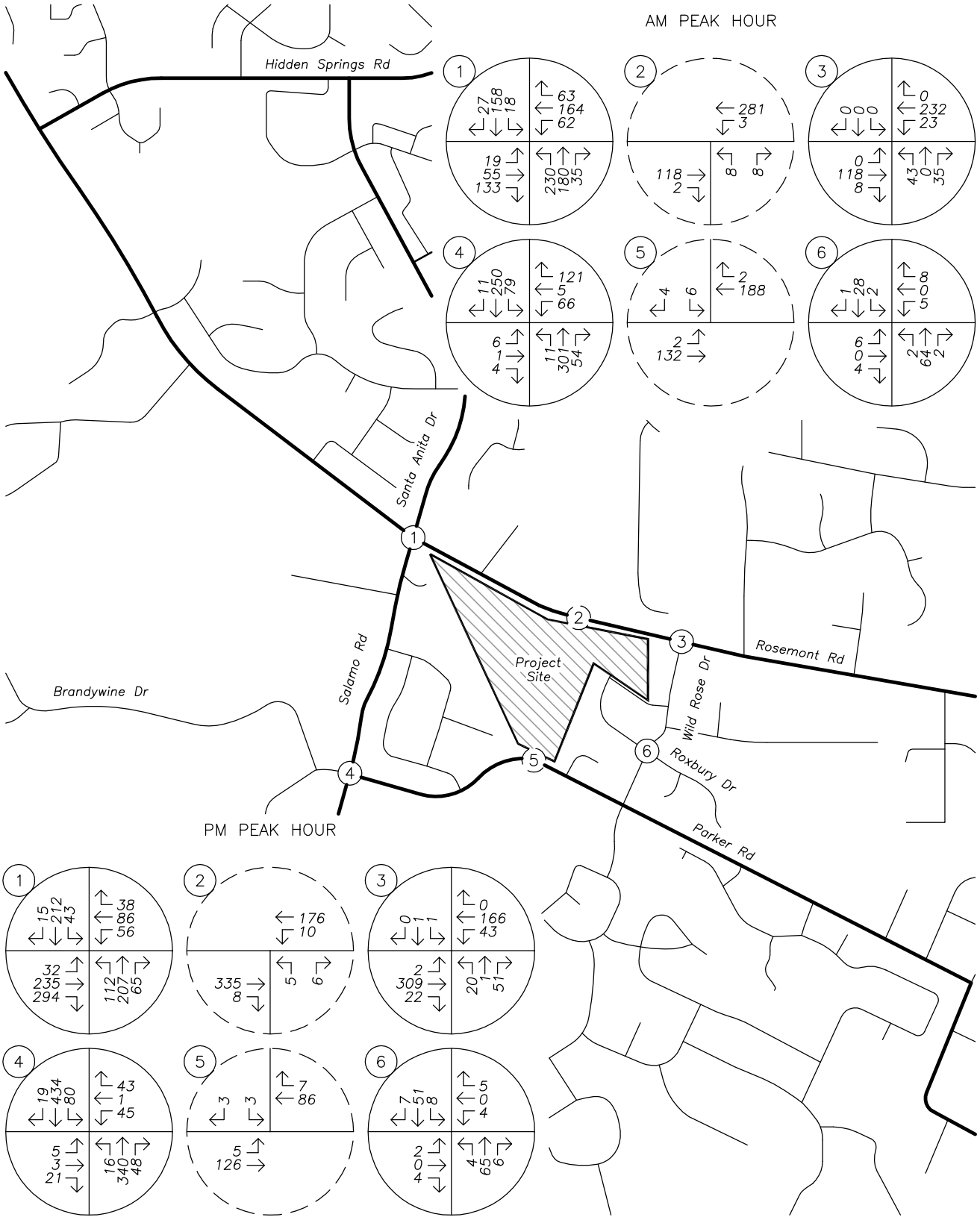
Figure 5 on page 13 shows the projected year 2018 peak hour background traffic volumes plus proposed development site trips at the study intersections.



TRAFFIC VOLUMES
Year 2018 Background Conditions
AM & PM Peak Hours

no scale

FIGURE 4



TRAFFIC VOLUMES
Year 2018 Background plus Site Trips
AM & PM Peak Hours

no scale

FIGURE 5

CAPACITY ANALYSIS

A capacity and delay analysis was conducted for each of the study intersections. The analysis was conducted according to the signalized and unsignalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL* (HCM) published by the Transportation Research Board. According to the City of West Linn's Transportation System Plan (TSP), both signalized and unsignalized intersections are required to operate at level of service (LOS) D or better, except principal arterial facilities which are required to operate at LOS E or better. The level of service of an intersection can range from A, which indicates very little or no delay experienced by vehicles, to F, which indicates a high degree of congestion and delay.

The intersection of Rosemont Road at Salamo Road/Santa Anita Drive is projected to operate at LOS B during the morning and evening peak hours under all analysis scenarios through year 2018.

The proposed site access intersection on Rosemont Road is projected to operate at LOS B during the morning and evening peak hours upon build-out of the proposed development.

The intersection of Rosemont Road at Wild Rose Drive currently operates at LOS B during both the morning and evening peak hours. Under year 2018 conditions, with or without the addition of site trips, the intersection is projected to operate at LOS B during the morning peak hour and at LOS C during the evening peak hour.

The intersection of Salamo Road at Parker Road/Brandywine Drive is projected to operate at LOS D during the morning and evening peak hours upon build-out of the proposed development.

The proposed site access intersection on Parker Road is projected to operate at LOS B during the morning peak hour and at LOS during the evening peak hour upon build-out of the proposed development.

The intersection of Wild Rose Drive at Roxbury Drive is projected to operate at LOS A during the morning and evening peak hours under all analysis scenarios through year 2018.

The v/c, delay, and LOS results of the capacity analysis are shown in Table 2 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 2 - Capacity Analysis Summary						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	LOS	Delay	V/C
Rosemont Rd at Salamo Rd/ Santa Anita Dr						
Existing Conditions	B	12	0.45	B	13	0.53
2018 Background Conditions	B	13	0.47	B	13	0.55
2018 Background plus Site Conditions	B	13	0.48	B	13	0.56
Site Access at Rosemont Rd						
2018 Background plus Site Conditions	B	10	0.08	B	12	0.22
Rosemont Rd at Wild Rose Dr						
Existing Conditions	B	12	0.13	B	15	0.13
2018 Background Conditions	B	12	0.14	C	15	0.14
2018 Background plus Site Conditions	B	12	0.14	C	16	0.14
Salamo Rd at Parker Rd/Brandywine Dr						
Existing Conditions	D	26	0.26	D	29	0.27
2018 Background Conditions	D	28	0.29	D	32	0.28
2018 Background plus Site Conditions	D	28	0.31	D	33	0.28
Site Access at Parker Rd						
2018 Background plus Site Conditions	B	10	0.13	A	9	0.06
Wild Rose Dr at Roxbury Dr						
Existing Conditions	A	9	0.02	A	9	0.01
2018 Background Conditions	A	9	0.02	A	9	0.01
2018 Background plus Site Conditions	A	9	0.02	A	9	0.01

Based on the results of the operational analysis, all study intersections are currently operating acceptably per City of West Linn standards and are projected to continue operating acceptably through year 2018 either with or without the addition of site trips from the proposed development. No operational mitigation is necessary or recommended.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (January 2010 to December 2014) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

The intersection of Rosemont Road at Salamo Road/Santa Anita Drive had two reported crashes during the analysis period. The crashes consisted of one rear-end collision and one pedestrian collision where a vehicle operator failed to yield right-of-way to a pedestrian due to inattention. Both of the reported crashes were classified as "Possible Injury – Complaint of Pain" (*Injury C*). The crash rate at the intersection was calculated to be 0.08 CMEV.

The intersection of Rosemont Road at Wild Rose Drive had two reported crashes during the analysis period. The crashes consisted of one rear-end collision and one turning-movement collision. Both of the reported crashes were classified as "Property Damage Only" (*PDO*). The crash rate at the intersection was calculated to be 0.19 CMEV.

The intersection of Salamo Road at Parker Road had one reported crash during the analysis period. The crash was a rear-end collision and was classified as "Possible Injury – Complaint of Pain" (*Injury C*). The crash rate at the intersection was calculated to be 0.06 CMEV.

The intersection of Wild Rose Drive at Roxbury Drive had no reported crashes during the analysis period.

Based on the most recent five years of crash data, no significant safety hazards were identified at any of the study intersections and no mitigation is recommended.

INTERSECTION SIGHT DISTANCE

Intersection sight distance was examined for the proposed new driveways along McCormick Drive in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). According to AASHTO and the City of West Linn's *Design & Construction Standards Section 5 – Street Requirements* the driver's eye is assumed to be 14.5 feet from the near edge of the nearest lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. Vehicle/object height is assumed to be 3.5 feet above the cross-street pavement.

Based on the posted speed of 25 mph on Rosemont Road, a minimum intersection sight distance of 280 feet is required to the east and west of the proposed site access at Rosemont Road. Intersection sight distance was measured to be in excess of 400 feet to the east, limited by on-site vegetation, and in excess of 300 feet to the west, limited by a crest in the vertical curvature of the roadway.

Based on the posted speed of 35 mph on Parker Road, a minimum intersection sight distance of 390 feet is required to the east and west of the proposed site access at Parker Road. Intersection sight distance was measured to be in excess of 600 feet to the east, measured to the near-side edge of the roadway of Wild Rose Drive, and 507 feet to the west, measured to the near-side edge of the roadway of Noble Lane.

Based on the detailed analysis, adequate sight distance is available for the proposed site accesses along Rosemont Road and Parker Road. No sight distance mitigation is necessary or recommended.

WARRANT ANALYSIS

Left-turn lane and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants examined used the methodology outlined in the National Cooperative Highway Research Project's (NCHRP) Report 457. The left-turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles and the travel speed of the roadway.

Left-turn lane warrants are not projected to be met for any of the study intersections where such treatments would be applicable under any of the year 2018 analysis scenarios. No new turn lanes are recommended.

Traffic signal warrants were examined for all unsignalized study intersections to determine whether the installation of a new traffic signal will be warranted at the intersections upon completion of the proposed development. Due to insufficient main and side-street traffic volumes, traffic signal warrants will not be met for any of the unsignalized study intersections under any analysis scenarios through year 2018.

CONCLUSIONS

Based on the results of the operational analysis, all study intersections are currently operating acceptably per City of West Linn standards, and are projected to continue operating acceptably through year 2018 either with or without the addition of site trips from the proposed development. No operational mitigation is necessary or recommended.

Based on the most recent five years of crash data, no significant safety hazards were identified at any of the study intersections and no mitigation is recommended.

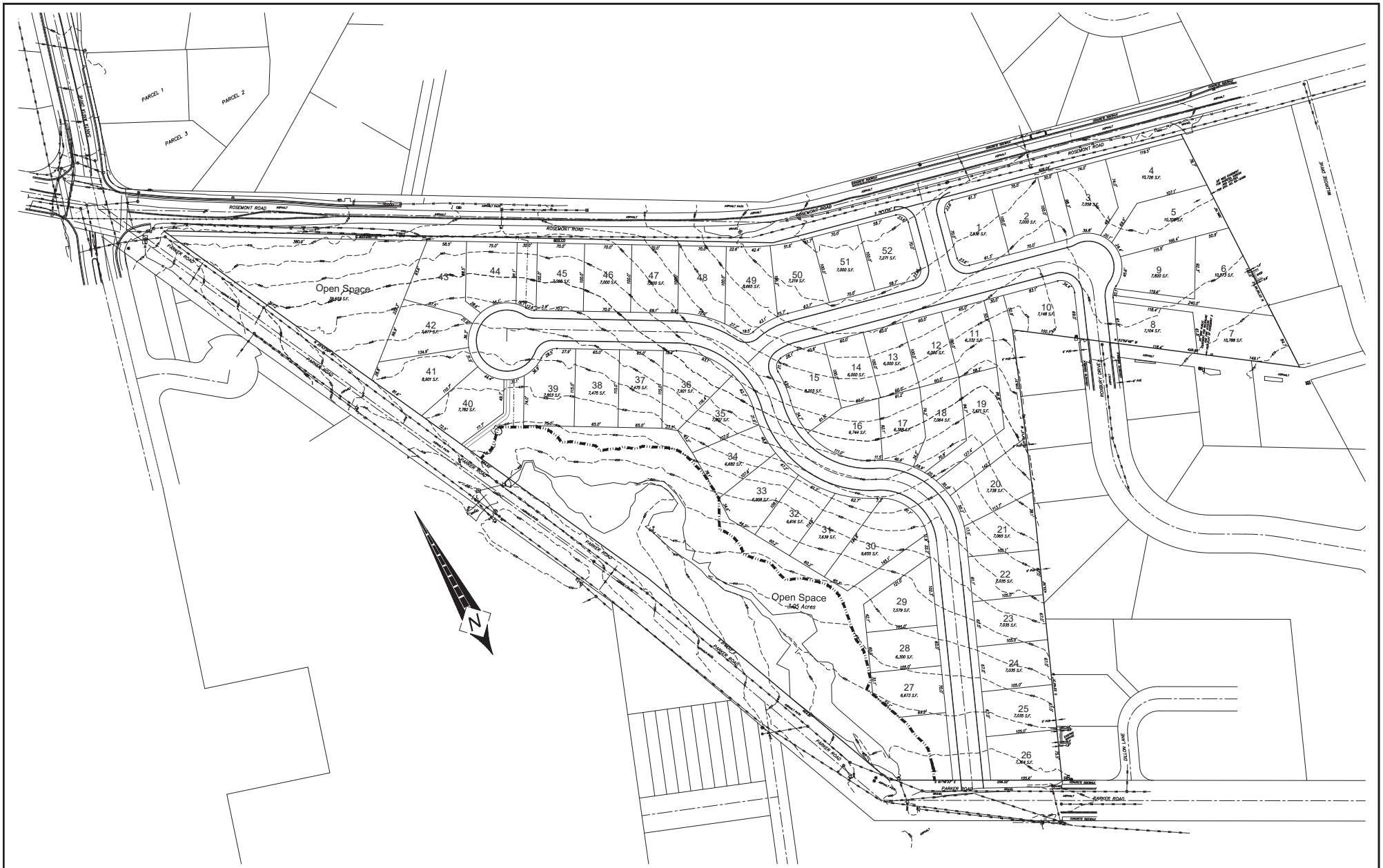
Based on the detailed analysis, adequate sight distance is available for the proposed site accesses along Rosemont Road and Parker Road. No sight distance mitigation is necessary or recommended.

Left-turn lane warrants are not projected to be met for any of the study intersections where such treatments would be applicable under any of the year 2018 analysis scenarios. No new turn lanes are recommended.

Due to insufficient main and side-street traffic volumes, traffic signal warrants will not be met for any of the unsignalized study intersections under any analysis scenarios through year 2018.

Based on the detailed analyses, the transportation system in the vicinity of the site will safely and efficiently support the proposed development of a 52-lot subdivision on Rosemont Road. No mitigations are recommended.

APPENDIX



DESIGNED:	REG			
DRAWN:	REG			
SCALE:	1" = 60'			
DATE:	January 2016			
FILE:	15-ICN-107	DATE	NO.	REVISION

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Tanner Ridge at Rosemont
Preliminary Plan

SHEET: 1/2

Total Vehicle Summary

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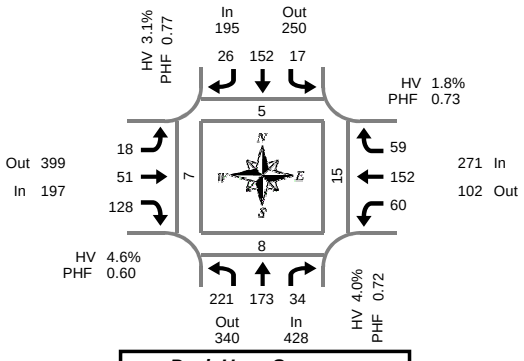

Peak Hour Summary
7:30 AM to 8:30 AM

Salamo Rd & Rosemont Rd

Wednesday, January 27, 2016
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	12	5	2	0	0	2	1	0	0	0	5	0	2	8	0	0	37	0	0	0	1
7:05 AM	12	9	2	0	1	5	0	0	0	0	5	0	0	10	0	0	44	0	0	0	0
7:10 AM	22	13	1	0	0	3	1	0	0	3	3	0	2	12	3	0	63	0	0	1	0
7:15 AM	13	11	2	0	2	7	2	0	1	2	4	0	0	13	3	0	60	1	0	0	0
7:20 AM	11	7	2	0	4	7	2	0	0	4	3	0	2	11	6	0	59	0	0	2	1
7:25 AM	18	13	4	0	0	6	2	0	0	4	4	0	3	22	7	0	83	0	0	0	0
7:30 AM	21	17	0	0	1	3	1	0	0	3	1	0	5	10	5	0	67	1	0	2	0
7:35 AM	30	16	2	0	1	7	6	0	1	2	5	0	3	26	4	0	103	0	0	1	0
7:40 AM	29	11	3	0	1	12	4	0	1	6	16	0	2	24	14	0	123	1	0	0	3
7:45 AM	31	25	1	0	1	16	2	0	1	9	14	0	3	9	2	0	114	0	0	4	0
7:50 AM	18	11	2	0	3	11	2	0	6	7	16	0	4	8	2	0	90	1	2	2	0
7:55 AM	13	15	2	0	1	7	2	0	2	3	24	0	1	1	2	0	73	0	0	0	0
8:00 AM	15	19	5	0	1	18	2	0	1	5	16	0	6	15	5	0	108	0	1	0	0
8:05 AM	12	15	2	0	2	10	2	0	0	2	7	0	8	15	3	0	78	1	1	0	1
8:10 AM	12	13	8	0	1	14	1	0	1	5	11	0	13	6	7	0	92	0	2	2	1
8:15 AM	10	12	1	0	2	15	1	0	2	4	10	0	3	8	5	0	73	0	1	3	1
8:20 AM	19	9	8	0	2	16	2	0	1	3	3	0	2	8	3	0	76	1	1	1	0
8:25 AM	11	10	0	0	1	23	1	0	2	2	5	0	10	22	7	0	94	0	0	0	1
8:30 AM	5	14	2	0	2	12	2	0	0	3	4	0	4	9	3	0	60	1	0	0	3
8:35 AM	19	15	2	0	2	6	2	0	0	0	13	0	3	7	4	0	73	1	0	1	2
8:40 AM	9	16	1	1	0	6	0	0	0	3	6	0	6	12	3	0	62	2	0	0	3
8:45 AM	10	19	5	0	2	14	2	0	0	2	3	0	6	10	5	0	78	1	4	4	5
8:50 AM	13	8	4	0	3	17	0	0	1	6	9	0	5	6	4	0	76	1	4	2	3
8:55 AM	10	11	3	0	3	19	1	0	3	7	7	0	9	8	3	0	84	1	8	5	5
Total Survey	375	314	64	1	36	256	41	0	23	85	194	0	102	280	100	0	1,870	13	24	30	30

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	46	27	5	0	1	10	2	0	0	3	13	0	4	30	3	0	144	0	0	1	1
7:15 AM	42	31	8	0	6	20	6	0	1	10	11	0	5	46	16	0	202	1	0	2	1
7:30 AM	80	44	5	0	3	22	11	0	2	11	22	0	10	60	23	0	293	2	0	3	3
7:45 AM	62	51	5	0	5	34	6	0	9	19	54	0	8	18	6	0	277	1	2	6	0
8:00 AM	39	47	15	0	4	42	5	0	2	12	34	0	27	36	15	0	278	1	4	2	2
8:15 AM	40	31	9	0	5	54	4	0	5	9	18	0	15	38	15	0	243	1	2	4	2
8:30 AM	33	45	5	1	4	24	4	0	0	6	23	0	13	28	10	0	195	4	0	1	8
8:45 AM	33	38	12	0	8	50	3	0	4	15	19	0	20	24	12	0	238	3	16	11	13
Total Survey	375	314	64	1	36	256	41	0	23	85	194	0	102	280	100	0	1,870	13	24	30	30

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	428	340	768	0	195	250	445	0	197	399	596	0	271	102	373	0	1,091	5	8	15	7
%HV	4.0%				3.1%				4.6%				1.8%				3.4%				
PHF	0.72				0.77				0.60				0.73				0.80				

By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	221	173	34	428	17	152	26	195	18	51	128	197	60	152	59	271	1,091
%HV	2.7%	2.9%	17.6%	4.0%	11.8%	2.0%	3.8%	3.1%	22.2%	9.8%	0.0%	4.6%	6.7%	0.0%	1.7%	1.8%	3.4%
PHF	0.61	0.83	0.50	0.72	0.85	0.70	0.54	0.77	0.50	0.58	0.57	0.60	0.56	0.63	0.64	0.73	0.80

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	230	153	23	0	15	86	25	0	12	43	100	0	27	154	48	0	916	4	2	12	5
7:15 AM	223	173	33	0	18	118	28	0	14	52	121	0	50	160	60	0	1,050	5	6	13	6
7:30 AM	221	173	34	0	17	152	26	0	18	51	128	0	60	152	59	0	1,091	5	8	15	7
7:45 AM	174	174	34	1	18	154	19	0	16	46	129	0	63	120	46	0	993	7	8	13	12
8:00 AM	145	161	41	1	21	170	16	0	11	42	94	0	75	126	52	0	954	9	22	18	25

Heavy Vehicle Summary

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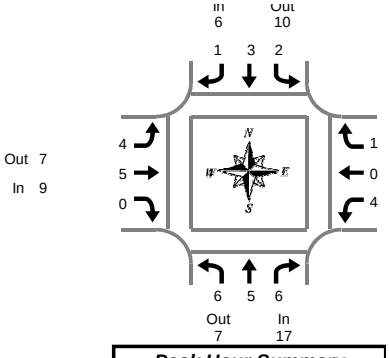


Salamo Rd & Rosemont Rd

Wednesday, January 27, 2016
7:00 AM to 9:00 AM

Peak Hour Summary
7:30 AM to 8:30 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:10 AM	1	1	0	2	0	0	0	0	0	0	1	1	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:30 AM	3	0	0	3	0	1	0	1	0	0	0	0	1	0	0	1	5
7:35 AM	2	1	1	4	0	0	0	0	1	0	0	1	0	0	0	0	5
7:40 AM	1	1	0	2	0	2	1	3	0	1	0	1	0	0	0	0	6
7:45 AM	0	1	0	1	0	0	0	0	1	1	0	2	1	0	0	1	4
7:50 AM	0	0	1	1	0	0	0	0	1	1	0	2	0	0	0	0	3
7:55 AM	0	1	1	2	0	0	0	0	1	1	0	2	0	0	0	0	4
8:00 AM	0	1	1	2	1	0	0	1	0	0	0	0	1	0	0	1	4
8:05 AM	0	0	1	1	0	0	0	0	0	1	0	1	1	0	0	1	3
8:10 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:20 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	3	0	3	0	2	0	2	1	0	0	1	6
8:55 AM	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	3
Total Survey	7	6	6	19	2	8	2	12	4	8	3	15	5	2	2	9	55

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	1	0	2	0	0	0	0	0	0	1	1	0	1	0	1	4
7:15 AM	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2
7:30 AM	6	2	1	9	0	3	1	4	1	1	0	2	1	0	0	1	16
7:45 AM	0	2	2	4	0	0	0	0	3	3	0	6	1	0	0	1	11
8:00 AM	0	1	3	4	1	0	0	1	0	1	0	1	2	0	1	3	9
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	2	3
8:45 AM	0	0	0	0	0	5	0	5	0	3	0	3	1	0	0	1	9
Total Survey	7	6	6	19	2	8	2	12	4	8	3	15	5	2	2	9	55

Heavy Vehicle Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Salamo Rd			Southbound Salamo Rd			Eastbound Rosemont Rd			Westbound Rosemont Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	17	7	24	6	10	16	9	7	16	5	13	18	37
PHF	0.47			0.38			0.38			0.42			0.58

By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	6	5	6	17	2	3	1	6	4	5	0	9	4	0	1	5	37
PHF	0.25	0.42	0.50	0.47	0.50	0.25	0.25	0.38	0.33	0.42	0.00	0.38	0.50	0.00	0.25	0.42	0.58

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

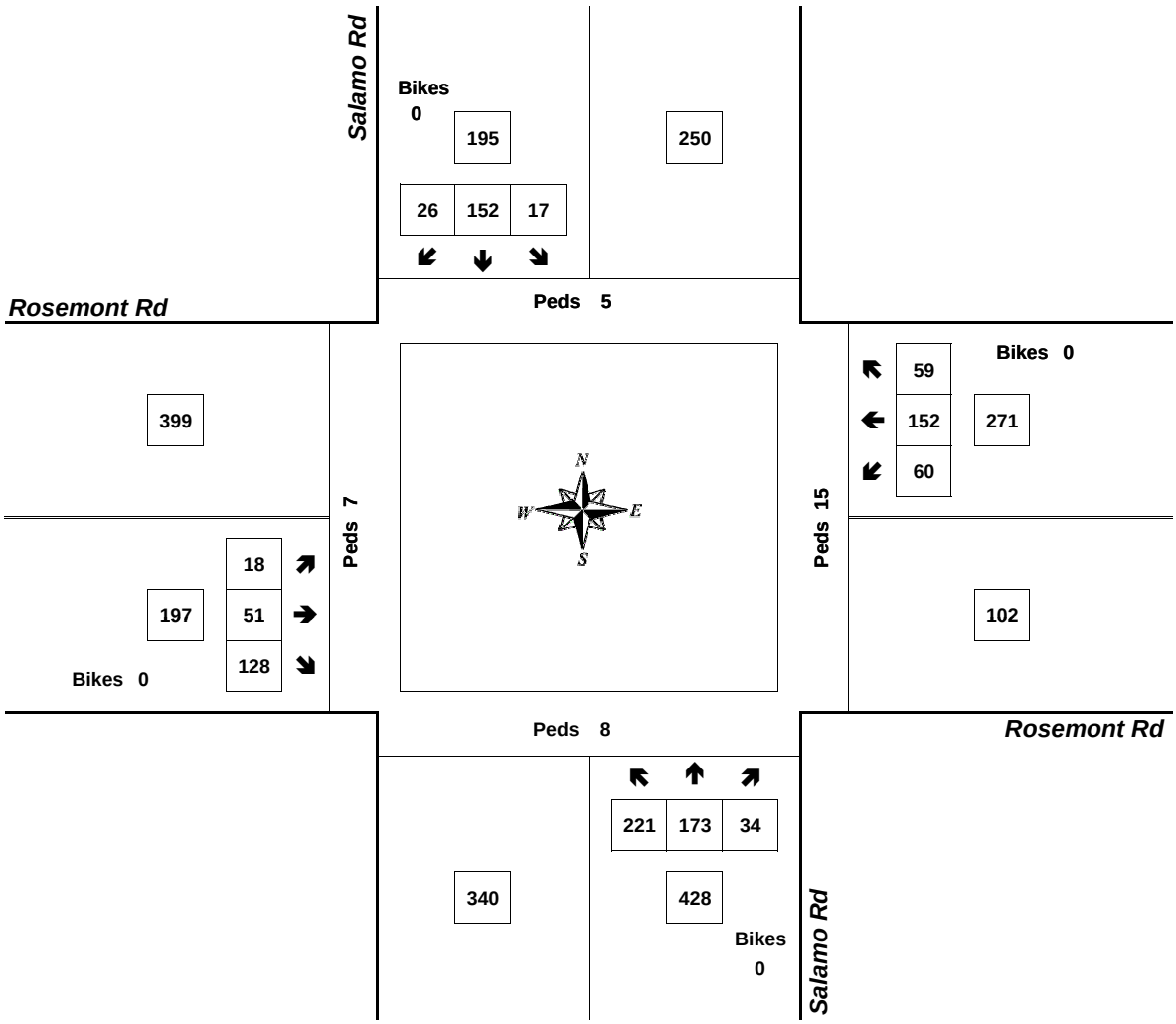
Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	7	5	3	15	0	3	2	5	4	4	2	10	2	1	0	3	33
7:15 AM	6	5	6	17	1	3	2	6	4	5	1	10	4	0	1	5	38
7:30 AM	6	5	6	17	2	3	1	6	4	5	0	9	4	0	1	5	37
7:45 AM	0	3	5	8	2	0	0	2	3	4	1	8	3	1	2	6	24
8:00 AM	0	1	3	4	2	5	0	7	0	4	1	5	3	1	2	6	22

Peak Hour Summary

Clay Carney
(503) 833-2740

Salamo Rd & Rosemont Rd

7:30 AM to 8:30 AM
Wednesday, January 27, 2016

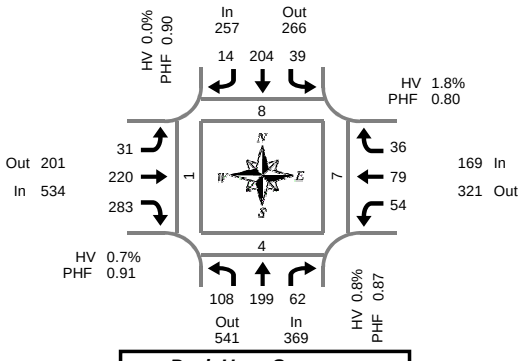


Approach	PHF	HV%	Volume
EB	0.60	4.6%	197
WB	0.73	1.8%	271
NB	0.72	4.0%	428
SB	0.77	3.1%	195
Intersection	0.80	3.4%	1,091

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:55 PM to 5:55 PM

Salamo Rd & Rosemont Rd

Tuesday, January 26, 2016
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	14	18	1	0	5	11	0	0	2	12	17	0	4	4	4	0	92	1	2	4	2
4:05 PM	7	14	1	0	8	15	0	0	2	13	18	0	0	5	3	0	86	0	0	0	0
4:10 PM	12	20	4	0	2	26	1	0	2	10	11	0	2	2	2	0	94	0	0	2	1
4:15 PM	11	15	3	0	3	14	1	0	2	10	16	0	3	7	3	0	88	0	0	0	3
4:20 PM	4	12	5	0	4	14	0	0	3	9	14	0	1	3	2	0	71	1	0	1	0
4:25 PM	12	17	4	0	2	16	1	0	5	15	18	0	6	4	4	0	104	0	0	1	0
4:30 PM	8	12	3	0	4	17	4	0	2	14	14	0	4	7	6	0	95	1	2	1	0
4:35 PM	9	9	1	0	3	11	2	0	3	17	15	0	1	4	3	0	78	1	0	1	1
4:40 PM	6	8	2	0	4	14	0	0	4	24	20	0	1	11	2	0	96	0	2	0	1
4:45 PM	6	14	5	0	2	19	2	0	0	16	22	0	6	5	2	0	99	0	0	0	0
4:50 PM	8	13	4	0	5	16	1	0	2	13	23	0	1	3	4	0	93	0	0	1	0
4:55 PM	10	19	3	0	0	23	0	0	2	18	32	0	4	5	3	0	119	0	0	1	0
5:00 PM	6	14	5	0	3	17	1	0	1	23	19	0	2	9	1	0	101	0	0	1	0
5:05 PM	16	22	6	0	6	15	4	0	2	12	17	0	3	6	0	0	109	0	0	0	0
5:10 PM	6	13	3	0	3	13	1	0	2	32	22	0	7	8	4	0	114	0	0	1	0
5:15 PM	15	18	7	0	7	18	2	0	3	17	25	0	5	9	2	0	128	0	0	0	0
5:20 PM	5	20	4	0	3	18	1	0	1	12	32	0	4	8	6	0	114	4	2	0	0
5:25 PM	9	18	7	0	4	16	2	0	0	15	16	0	4	2	2	0	95	2	0	2	0
5:30 PM	12	19	6	0	2	18	0	0	4	25	25	0	5	6	2	0	124	0	1	0	0
5:35 PM	8	12	4	0	4	20	1	0	3	20	24	0	4	7	5	0	112	0	0	0	0
5:40 PM	9	19	4	0	0	13	2	0	5	14	23	0	5	6	3	0	103	0	0	0	0
5:45 PM	6	17	7	0	1	17	0	0	1	16	16	0	7	5	3	0	96	0	0	0	0
5:50 PM	6	8	6	0	6	16	0	0	7	16	32	0	4	8	5	0	114	2	1	2	1
5:55 PM	6	17	3	0	1	22	0	0	2	15	24	0	3	8	1	0	102	0	0	0	0
Total Survey	211	368	98	0	82	399	26	0	60	388	495	0	86	142	72	0	2,427	12	10	18	9

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	33	52	6	0	15	52	1	0	6	35	46	0	6	11	9	0	272	1	2	6	3
4:15 PM	27	44	12	0	9	44	2	0	10	34	48	0	10	14	9	0	263	1	0	2	3
4:30 PM	23	29	6	0	11	42	6	0	9	55	49	0	6	22	11	0	269	2	4	2	2
4:45 PM	24	46	12	0	7	58	3	0	4	47	77	0	11	13	9	0	311	0	0	2	0
5:00 PM	28	49	14	0	12	45	6	0	5	67	58	0	12	23	5	0	324	0	0	2	0
5:15 PM	29	56	18	0	14	52	5	0	4	44	73	0	13	19	10	0	337	6	2	2	0
5:30 PM	29	50	14	0	6	51	3	0	12	59	72	0	14	19	10	0	339	0	1	0	0
5:45 PM	18	42	16	0	8	55	0	0	10	47	72	0	14	21	9	0	312	2	1	2	1
Total Survey	211	368	98	0	82	399	26	0	60	388	495	0	86	142	72	0	2,427	12	10	18	9

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	369	541	910	0	257	266	523	0	534	201	735	0	169	321	490	0	1,329	8	4	7	1
%HV	0.8%				0.0%				0.7%				1.8%				0.8%				
PHF	0.87				0.90				0.91				0.80				0.93				

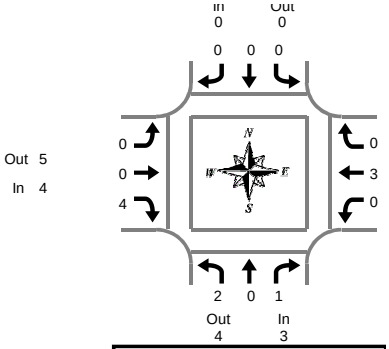
By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	108	199	62	369	39	204	14	257	31	220	283	534	54	79	36	169	1,329
%HV	1.9%	0.0%	1.6%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.7%	0.0%	3.8%	0.0%	1.8%	0.8%
PHF	0.73	0.87	0.86	0.87	0.61	0.93	0.50	0.90	0.60	0.82	0.90	0.91	0.84	0.79	0.75	0.80	0.93

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	107	171	36	0	42	196	12	0	29	171	220	0	33	60	38	0	1,115	4	6	12	8
4:15 PM	102	168	44	0	39	189	17	0	28	203	232	0	39	72	34	0	1,167	3	4	8	5
4:30 PM	104	180	50	0	44	197	20	0	22	213	257	0	42	77	35	0	1,241	8	6	8	2
4:45 PM	110	201	58	0	39	206	17	0	25	217	280	0	50	74	34	0	1,311	6	3	6	0
5:00 PM	104	197	62	0	40	203	14	0	31	217	275	0	53	82	34	0	1,312	8	4	6	1

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Salamo Rd & Rosemont Rd

Tuesday, January 26, 2016
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	1	0	1	3
4:10 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
4:40 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	1	0	1	3
5:10 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:50 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	2	2	1	5	1	2	0	3	0	3	5	8	0	4	1	5	21

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	1	1	0	2	0	1	0	1	0	1	0	1	5
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	1	0	1	0	0	0	0	0	1	1	2	0	0	1	1	4
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	1	1	0	0	0	0	0	0	2	2	0	2	0	2	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:45 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Survey	2	2	1	5	1	2	0	3	0	3	5	8	0	4	1	5	21

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Salamo Rd			Southbound Salamo Rd			Eastbound Rosemont Rd			Westbound Rosemont Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	4	7	0	0	0	4	5	9	3	1	4	10
PHF	0.38			0.00			0.33			0.38			0.42

By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	0	1	3	0	0	0	0	0	0	4	4	0	3	0	3	10
PHF	0.25	0.00	0.25	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.00	0.38	0.00	0.38	0.42

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

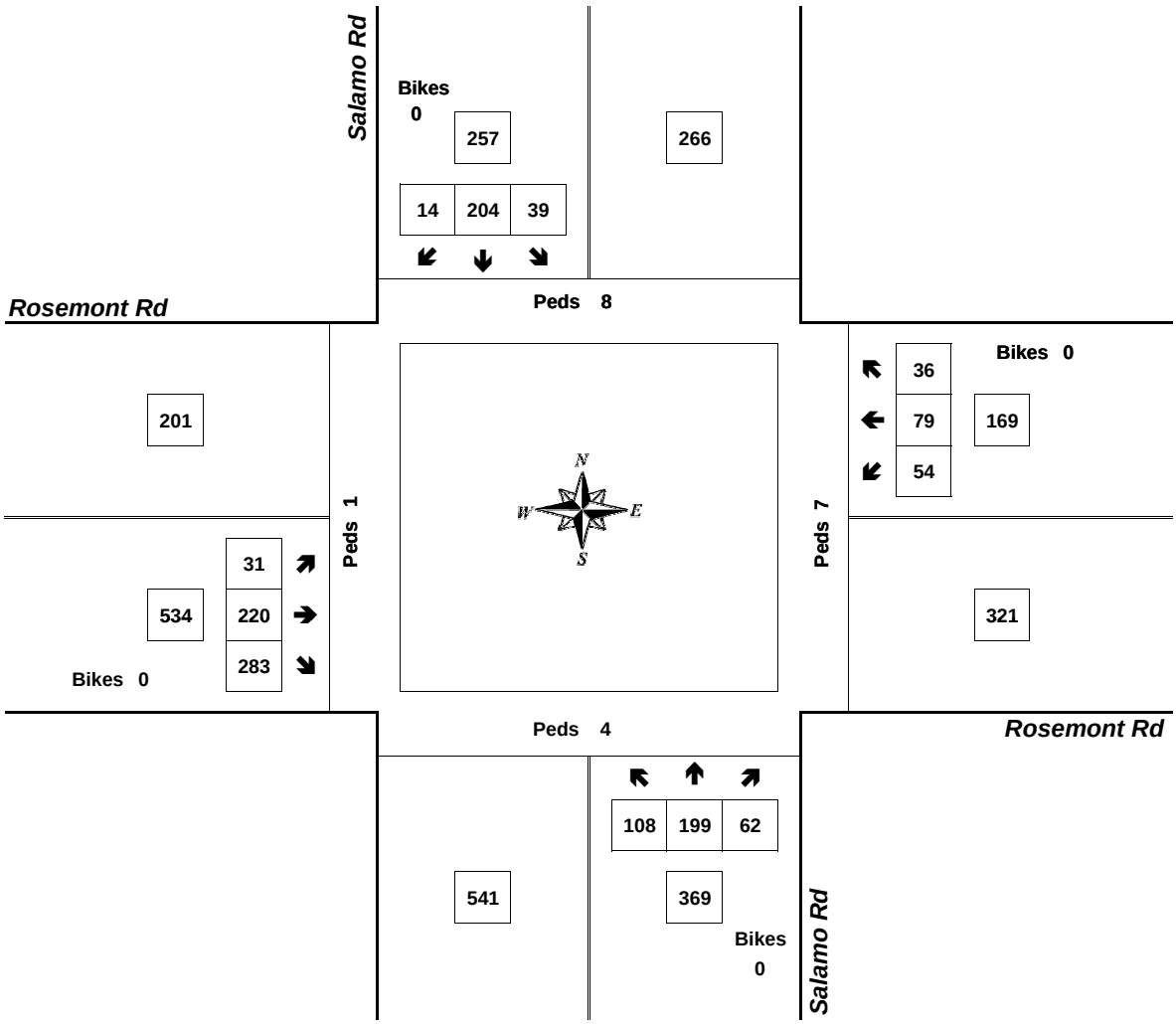
Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	0	2	1	2	0	3	0	3	1	4	0	1	1	2	11
4:15 PM	0	1	1	2	0	1	0	1	0	2	3	5	0	2	1	3	11
4:30 PM	0	1	1	2	0	1	0	1	0	1	4	5	0	3	1	4	12
4:45 PM	0	0	1	1	0	1	0	1	0	0	4	4	0	3	0	3	9
5:00 PM	2	0	1	3	0	0	0	0	0	0	4	4	0	3	0	3	10

Peak Hour Summary

Clay Carney
(503) 833-2740

Salamo Rd & Rosemont Rd

4:55 PM to 5:55 PM
Tuesday, January 26, 2016

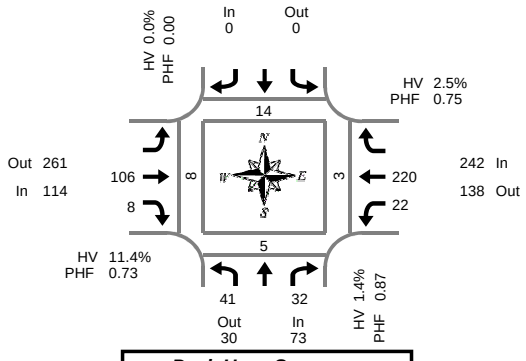


Approach	PHF	HV%	Volume
EB	0.91	0.7%	534
WB	0.80	1.8%	169
NB	0.87	0.8%	369
SB	0.90	0.0%	257
Intersection	0.93	0.8%	1,329

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:25 AM to 8:25 AM

Wild Rose Dr & Rosemont Rd

Wednesday, January 27, 2016
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	1		2	0				0	3	0	0	0	7		0	13		0	0	0	0
7:05 AM	0		0	0				0	2	0	0	0	11		1	13		2	0	0	1
7:10 AM	2		0	0				0	4	0	0	1	18		0	25		0	0	0	0
7:15 AM	2		3	0				0	6	0	0	1	9		0	21		1	0	0	0
7:20 AM	3		0	0				0	9	0	0	2	20		0	34		0	0	0	0
7:25 AM	10		2	0				0	8	0	0	4	24		0	48		2	0	0	0
7:30 AM	5		0	0				0	5	0	0	2	18		0	30		1	0	0	0
7:35 AM	2		1	0				0	4	1	1	1	32		0	41		1	0	0	0
7:40 AM	6		2	0				0	8	2	0	1	23		0	42		4	0	0	0
7:45 AM	1		2	0				0	11	1	0	1	15		0	31		1	0	0	0
7:50 AM	0		3	0				0	12	0	0	1	11		0	27		1	0	0	1
7:55 AM	4		2	0				0	4	0	0	4	9		0	23		2	0	1	0
8:00 AM	2		6	0				0	9	2	0	0	14		0	33		0	5	0	6
8:05 AM	3		4	0				0	8	0	0	1	29		0	45		1	0	0	0
8:10 AM	3		3	0				0	15	0	1	3	18		0	42		0	0	1	1
8:15 AM	2		5	0				0	7	2	0	1	12		0	29		1	0	1	0
8:20 AM	3		2	0				0	15	0	0	3	15		0	38		0	0	0	0
8:25 AM	1		1	0				0	4	1	0	7	34		0	48		0	1	1	0
8:30 AM	1		3	0				0	6	0	0	0	18		0	28		0	0	0	0
8:35 AM	0		1	0				0	4	1	0	1	17		0	24		3	0	2	0
8:40 AM	1		4	0				0	3	1	0	4	19		0	32		1	0	0	0
8:45 AM	3		0	0				0	6	2	0	3	15		0	29		2	0	0	0
8:50 AM	1		3	0				0	10	1	0	3	18		0	36		5	0	2	0
8:55 AM	6		2	0				0	12	4	0	1	13		0	38		6	0	0	2
Total Survey	62		51	0				0	175	18	2	45	419		1	770		34	6	8	11

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	3		2	0				0	9	0	0	1	36		1	51		2	0	0	1
7:15 AM	15		5	0				0	23	0	0	7	53		0	103		3	0	0	0
7:30 AM	13		3	0				0	17	3	1	4	73		0	113		6	0	0	0
7:45 AM	5		7	0				0	27	1	0	6	35		0	81		4	0	1	1
8:00 AM	8		13	0				0	32	2	1	4	61		0	120		1	5	1	7
8:15 AM	6		8	0				0	26	3	0	11	61		0	115		1	1	2	0
8:30 AM	2		8	0				0	13	2	0	5	54		0	84		4	0	2	0
8:45 AM	10		5	0				0	28	7	0	7	46		0	103		13	0	2	2
Total Survey	62		51	0				0	175	18	2	45	419		1	770		34	6	8	11

Peak Hour Summary
7:25 AM to 8:25 AM

By Approach	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	73	30	103	0	0	0	0	0	114	261	375	2	242	138	380	0	429	14	5	3	8
%HV	1.4%				0.0%				11.4%				2.5%				4.7%				
PHF	0.87				0.00				0.73				0.75				0.89				

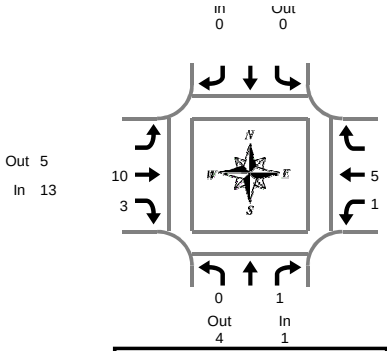
By Movement	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	41		32	73				0		106	8	114	22	220		242	429
%HV	0.0%	NA	3.1%	1.4%	NA	NA	NA	0.0%	NA	9.4%	37.5%	11.4%	4.5%	2.3%	NA	2.5%	4.7%
PHF	0.60		0.62	0.87				0.00		0.72	0.50	0.73	0.79	0.74		0.75	0.89

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	36		17	0				0	76	4	1	18	197		1	348		15	0	1	2
7:15 AM	41		28	0				0	99	6	2	21	222		0	417		14	5	2	8
7:30 AM	32		31	0				0	102	9	2	25	230		0	429		12	6	4	8
7:45 AM	21		36	0				0	98	8	1	26	211		0	400		10	6	6	8
8:00 AM	26		34	0				0	99	14	1	27	222		0	422		19	6	7	9

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Wild Rose Dr & Rosemont Rd

Wednesday, January 27, 2016
7:00 AM to 9:00 AM

Peak Hour Summary
7:25 AM to 8:25 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		0	0				0	0	0	0		0	0		0	0
7:05 AM	0		0	0				0	0	0	0		0	1		1	1
7:10 AM	0		0	0				0	0	0	0		0	0		0	0
7:15 AM	0		0	0				0	0	0	0		0	0		0	0
7:20 AM	0		0	0				0	0	0	0		0	0		0	0
7:25 AM	0		0	0				0	0	0	0		1	1		2	2
7:30 AM	0		0	0				0	0	0	0		0	0		0	0
7:35 AM	0		0	0				0	0	1	1		0	0		0	1
7:40 AM	0		0	0				0	0	0	0		0	0		0	0
7:45 AM	0		0	0				0	2	0	2		0	1		1	3
7:50 AM	0		1	1				0	2	0	2		0	0		0	3
7:55 AM	0		0	0				0	0	0	0		0	1		1	1
8:00 AM	0		0	0				0	1	2	3		0	0		0	3
8:05 AM	0		0	0				0	2	0	2		0	1		1	3
8:10 AM	0		0	0				0	2	0	2		0	0		0	2
8:15 AM	0		0	0				0	0	0	0		0	0		0	0
8:20 AM	0		0	0				0	1	0	1		0	1		1	2
8:25 AM	0		0	0				0	1	0	1		0	0		0	1
8:30 AM	0		1	1				0	0	0	0		0	0		0	1
8:35 AM	0		0	0				0	0	0	0		0	0		0	0
8:40 AM	0		1	1				0	0	0	0		0	1		1	2
8:45 AM	0		0	0				0	0	0	0		1	0		1	1
8:50 AM	0		0	0				0	2	0	2		0	2		2	4
8:55 AM	0		0	0				0	1	1	2		0	0		0	2
Total Survey	0		3	3				0	14	4	18		2	9		11	32

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		0	0				0	0	0	0		0	1		1	1
7:15 AM	0		0	0				0	0	0	0		1	1		2	2
7:30 AM	0		0	0				0	0	1	1		0	0		0	1
7:45 AM	0		1	1				0	4	0	4		0	2		2	7
8:00 AM	0		0	0				0	5	2	7		0	1		1	8
8:15 AM	0		0	0				0	2	0	2		0	1		1	3
8:30 AM	0		2	2				0	0	0	0		0	1		1	3
8:45 AM	0		0	0				0	3	1	4		1	2		3	7
Total Survey	0		3	3				0	14	4	18		2	9		11	32

Heavy Vehicle Peak Hour Summary
7:25 AM to 8:25 AM

By Approach	Northbound Wild Rose Dr			Southbound Wild Rose Dr			Eastbound Rosemont Rd			Westbound Rosemont Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	4	5	0	0	0	13	5	18	6	11	17	20
PHF	0.25			0.00			0.46			0.75			0.63

By Movement	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	0		1	1				0	10	3	13		1	5		6	20
PHF	0.00		0.25	0.25				0.00	0.50	0.38	0.46		0.25	0.63		0.75	0.63

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

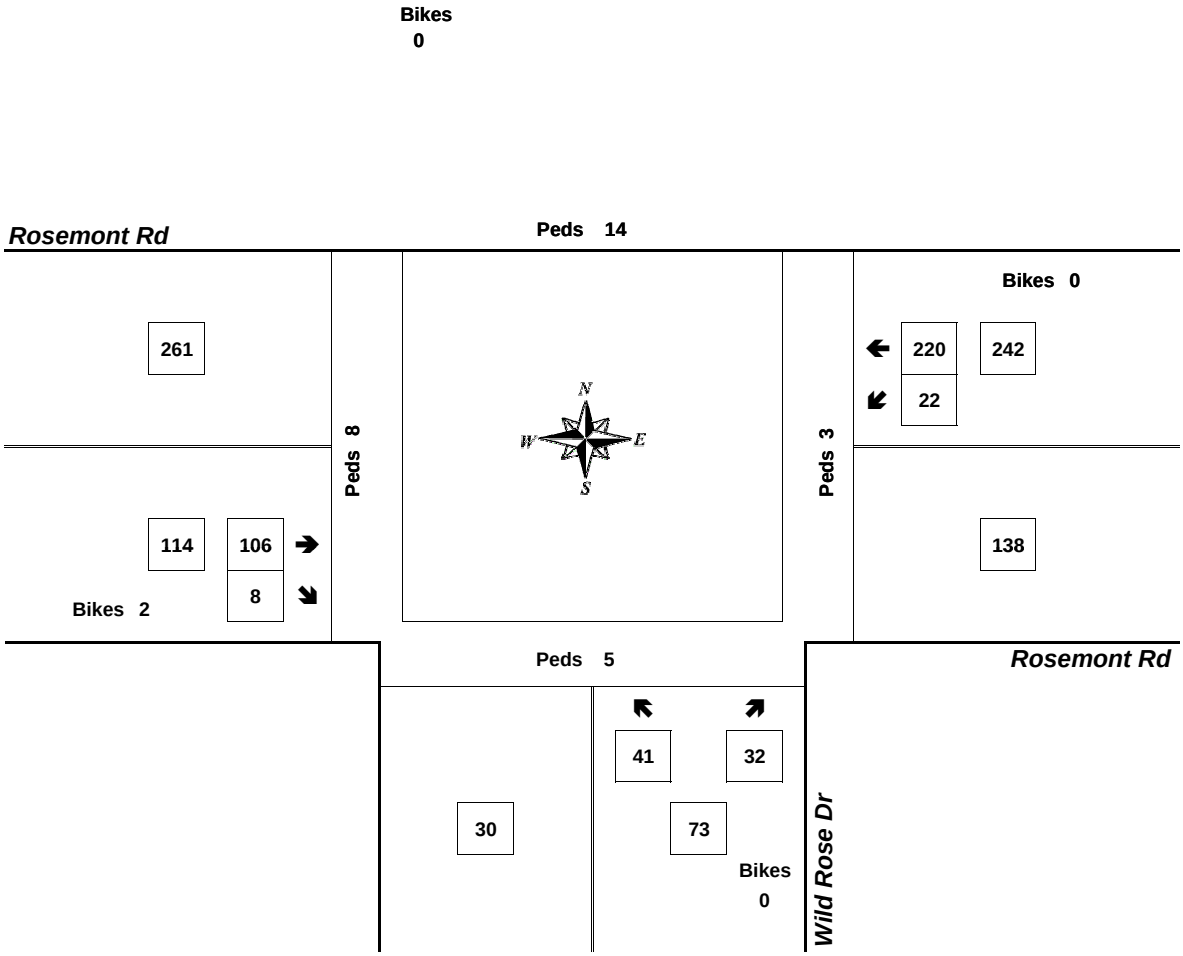
Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		1	1				0	4	1	5		1	4		5	11
7:15 AM	0		1	1				0	9	3	12		1	4		5	18
7:30 AM	0		1	1				0	11	3	14		0	4		4	19
7:45 AM	0		3	3				0	11	2	13		0	5		5	21
8:00 AM	0		2	2				0	10	3	13		1	5		6	21

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Wild Rose Dr & Rosemont Rd

7:25 AM to 8:25 AM
Wednesday, January 27, 2016

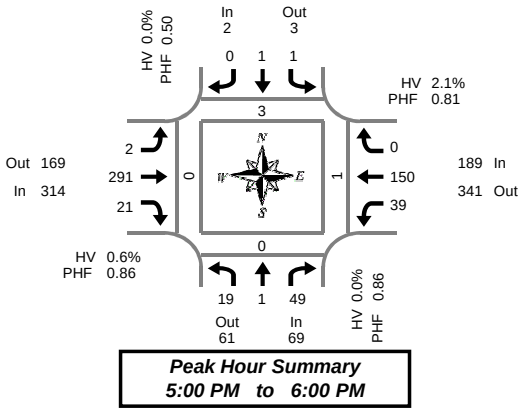


Approach	PHF	HV%	Volume
EB	0.73	11.4%	114
WB	0.75	2.5%	242
NB	0.87	1.4%	73
SB	0.00	0.0%	0
Intersection	0.89	4.7%	429

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
5:00 PM to 6:00 PM

Wild Rose Dr & Rosemont Rd

Tuesday, January 26, 2016
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	0	0	0	0	0	0	0	0	17	2	0	1	8	0	0	29	4	0	0	3
4:05 PM	2	0	6	0	0	0	0	0	0	17	1	0	2	6	0	0	34	2	0	0	0
4:10 PM	1	0	4	0	0	0	0	0	0	15	1	0	3	6	0	0	30	0	0	0	3
4:15 PM	3	0	4	0	0	0	0	0	0	17	1	0	0	7	0	0	32	1	0	0	0
4:20 PM	0	0	2	0	0	0	0	0	0	15	2	0	1	6	0	0	26	0	0	0	0
4:25 PM	2	0	1	1	0	0	0	0	0	9	4	0	4	11	0	0	31	1	0	0	0
4:30 PM	2	0	3	0	0	0	0	0	0	23	2	0	2	14	0	0	46	2	0	0	0
4:35 PM	2	0	2	0	0	0	0	0	0	20	2	0	1	9	0	0	36	2	0	0	0
4:40 PM	0	0	2	0	0	0	0	0	0	29	0	0	3	12	0	0	46	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	25	0	0	1	14	0	0	41	0	1	0	0
4:50 PM	1	0	4	0	0	0	0	0	0	24	0	0	1	7	0	0	37	0	0	0	0
4:55 PM	0	0	3	0	0	0	0	0	0	20	2	0	5	11	0	0	41	1	0	0	0
5:00 PM	3	0	3	0	0	0	0	0	0	23	1	0	3	12	0	0	45	0	0	0	0
5:05 PM	2	0	6	0	0	0	0	0	0	25	4	0	3	7	0	0	47	0	0	0	0
5:10 PM	2	0	4	0	0	0	0	0	1	30	2	0	4	15	0	0	58	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	25	4	0	2	19	0	0	52	1	0	0	0
5:20 PM	2	0	7	0	0	0	0	0	0	23	0	0	4	14	0	0	50	0	0	0	0
5:25 PM	0	0	3	0	0	1	0	0	0	25	2	0	6	9	0	0	46	0	0	0	0
5:30 PM	0	0	5	0	0	0	0	0	0	27	5	0	4	10	0	0	51	0	0	0	0
5:35 PM	2	0	3	0	0	0	0	0	0	23	0	0	4	15	0	0	47	0	0	0	0
5:40 PM	1	0	5	0	0	0	0	0	0	24	1	0	2	9	0	0	42	0	0	0	0
5:45 PM	1	1	4	0	0	0	0	0	0	22	0	0	3	16	0	0	47	1	0	0	0
5:50 PM	4	0	3	0	1	0	0	0	0	24	1	0	2	12	0	0	47	0	0	0	0
5:55 PM	2	0	4	0	0	0	0	0	1	20	1	0	2	12	0	0	42	1	0	1	0
Total Survey	33	1	81	1	1	1	0	0	2	522	38	0	63	261	0	0	1,003	16	1	1	6

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	4	0	10	0	0	0	0	0	0	49	4	0	6	20	0	0	93	6	0	0	6
4:15 PM	5	0	7	1	0	0	0	0	0	41	7	0	5	24	0	0	89	2	0	0	0
4:30 PM	4	0	7	0	0	0	0	0	0	72	4	0	6	35	0	0	128	4	0	0	0
4:45 PM	1	0	8	0	0	0	0	0	0	69	2	0	7	32	0	0	119	1	1	0	0
5:00 PM	7	0	13	0	0	0	0	0	1	78	7	0	10	34	0	0	150	0	0	0	0
5:15 PM	2	0	12	0	0	1	0	0	0	73	6	0	12	42	0	0	148	1	0	0	0
5:30 PM	3	0	13	0	0	0	0	0	0	74	6	0	10	34	0	0	140	0	0	0	0
5:45 PM	7	1	11	0	1	0	0	0	1	66	2	0	7	40	0	0	136	2	0	1	0
Total Survey	33	1	81	1	1	1	0	0	2	522	38	0	63	261	0	0	1,003	16	1	1	6

Peak Hour Summary
5:00 PM to 6:00 PM

By Approach	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	69	61	130	0	2	3	5	0	314	169	483	0	189	341	530	0	574	3	0	1	0
%HV	0.0%				0.0%				0.6%				2.1%				1.0%				
PHF	0.86				0.50				0.86				0.81				0.90				

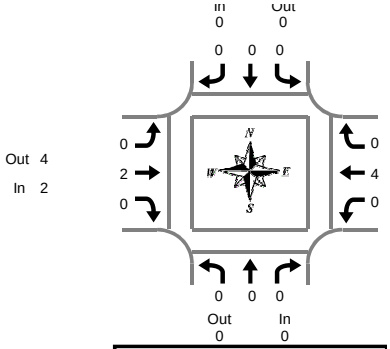
By Movement	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	19	1	49	69	1	1	0	2	2	291	21	314	39	150	0	189	574
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.6%	0.0%	2.7%	0.0%	2.1%	1.0%
PHF	0.68	0.25	0.82	0.86	0.25	0.25	0.00	0.50	0.50	0.91	0.53	0.86	0.70	0.78	0.00	0.81	0.90

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	14	0	32	1	0	0	0	0	0	231	17	0	24	111	0	0	429	13	1	0	6
4:15 PM	17	0	35	1	0	0	0	0	1	260	20	0	28	125	0	0	486	7	1	0	0
4:30 PM	14	0	40	0	0	1	0	0	1	292	19	0	35	143	0	0	545	6	1	0	0
4:45 PM	13	0	46	0	0	1	0	0	1	294	21	0	39	142	0	0	557	2	1	0	0
5:00 PM	19	1	49	0	1	1	0	0	2	291	21	0	39	150	0	0	574	3	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Wild Rose Dr & Rosemont Rd

Tuesday, January 26, 2016
4:00 PM to 6:00 PM

Peak Hour Summary
5:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	0	0	0	0	0	6	0	6	0	6	0	6	12

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	0	0	0	0	0	6	0	6	0	6	0	6	12

Heavy Vehicle Peak Hour Summary
5:00 PM to 6:00 PM

By Approach	Northbound Wild Rose Dr			Southbound Wild Rose Dr			Eastbound Rosemont Rd			Westbound Rosemont Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	2	4	6	4	2	6	6
PHF	0.00			0.00			0.50			0.50			0.50

By Movement	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	4	6
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.00	0.50	0.00	0.50	0.50

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Wild Rose Dr				Southbound Wild Rose Dr				Eastbound Rosemont Rd				Westbound Rosemont Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	2	0	2	6
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	3	0	3	7
4:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	4	7
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	4	7
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	4	0	4	6

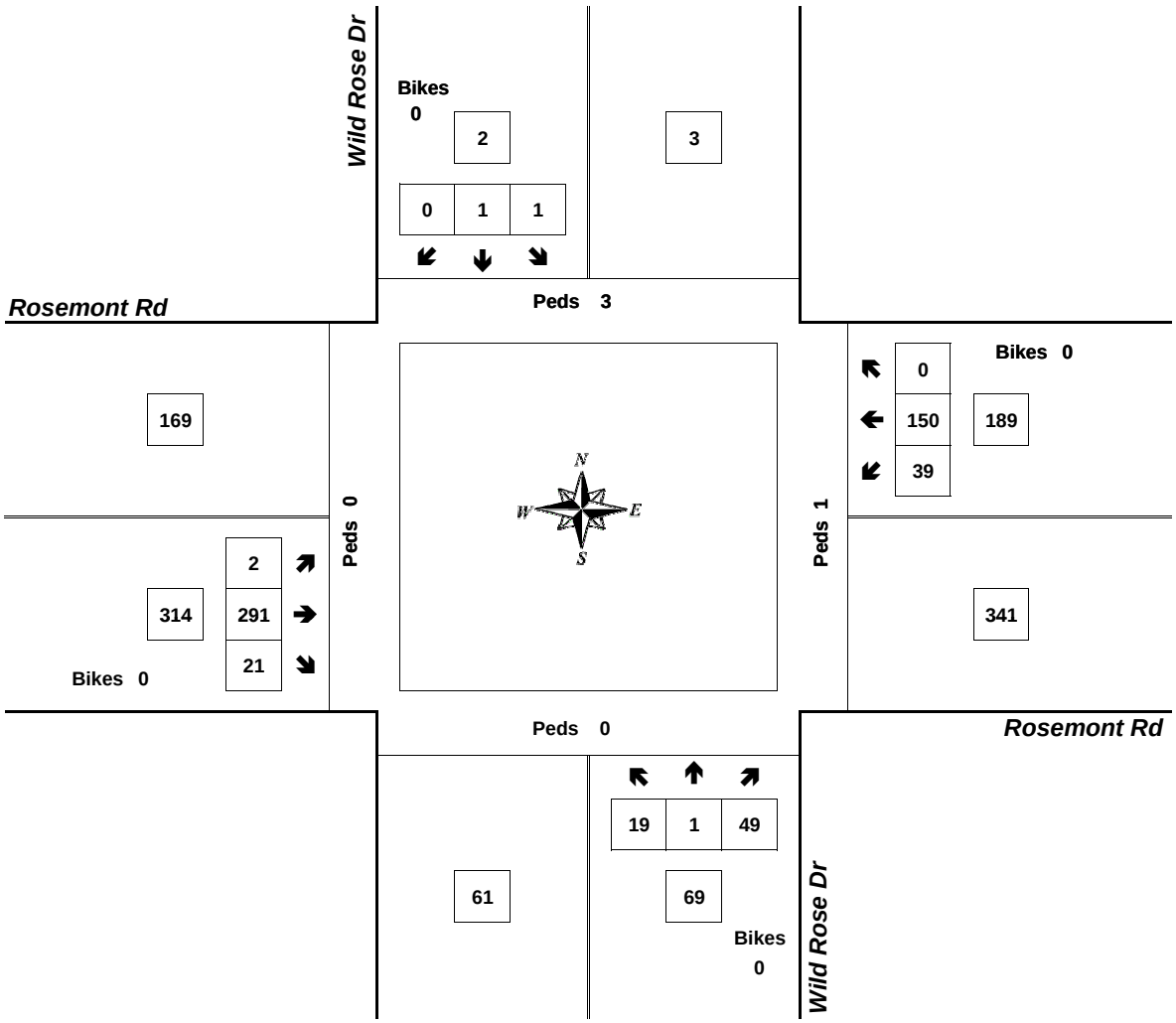
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Wild Rose Dr & Rosemont Rd

5:00 PM to 6:00 PM
Tuesday, January 26, 2016

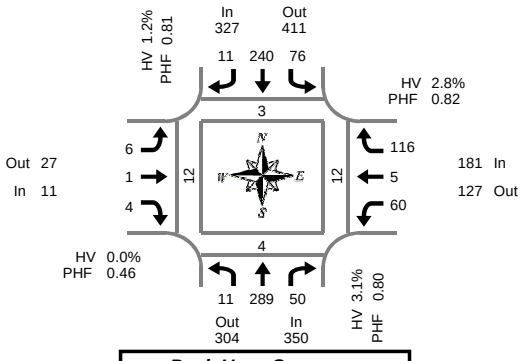


Approach	PHF	HV%	Volume
EB	0.86	0.6%	314
WB	0.81	2.1%	189
NB	0.86	0.0%	69
SB	0.50	0.0%	2
Intersection	0.90	1.0%	574

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:40 AM to 8:40 AM

Salamo Rd & Parker Rd

Wednesday, January 27, 2016
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	15	2	0	1	10	0	0	0	0	0	0	1	0	4	0	34	0	0	0	0
7:05 AM	0	23	1	0	2	6	0	0	0	0	0	0	1	0	2	0	35	0	0	0	0
7:10 AM	0	23	2	0	1	11	0	0	0	0	0	0	1	0	8	0	46	0	0	0	0
7:15 AM	0	19	2	0	1	9	1	0	0	0	0	0	2	1	6	0	41	0	0	3	0
7:20 AM	0	25	1	0	1	11	0	0	0	0	1	0	5	0	5	0	49	0	0	0	1
7:25 AM	1	22	5	0	0	10	0	0	0	0	0	0	7	0	7	0	52	0	0	1	0
7:30 AM	0	28	2	0	1	7	0	0	1	0	0	0	4	0	10	0	53	0	0	2	0
7:35 AM	0	34	2	0	0	12	0	0	1	0	0	0	4	0	9	0	62	0	0	0	0
7:40 AM	0	36	3	0	1	22	1	0	1	0	0	0	4	0	9	0	77	0	0	0	0
7:45 AM	0	41	5	0	5	29	0	0	0	0	1	0	3	0	12	0	96	0	0	0	1
7:50 AM	0	19	5	0	6	22	1	0	0	0	0	0	4	0	8	0	65	0	0	0	0
7:55 AM	1	22	1	0	5	16	0	0	1	0	2	0	3	0	7	0	58	0	0	4	0
8:00 AM	0	32	4	0	7	32	0	0	2	0	0	0	5	0	16	0	98	0	1	0	0
8:05 AM	1	22	6	0	11	21	0	0	1	0	0	0	6	0	9	0	77	0	1	1	1
8:10 AM	0	24	2	0	11	18	1	0	0	0	0	0	7	0	7	0	70	0	0	2	0
8:15 AM	1	13	6	0	10	15	2	0	0	0	0	0	5	0	17	0	69	1	0	1	0
8:20 AM	3	23	4	0	5	9	1	0	0	0	0	0	8	2	9	0	64	0	0	1	2
8:25 AM	2	17	4	0	6	34	1	0	0	0	1	0	4	2	8	0	79	0	0	0	0
8:30 AM	1	16	7	0	5	12	0	0	0	1	0	0	7	0	2	0	51	0	2	0	7
8:35 AM	2	24	3	0	4	10	4	0	1	0	0	0	4	1	12	0	65	2	0	3	1
8:40 AM	2	19	1	1	3	16	0	0	0	0	1	0	2	0	5	0	49	0	0	4	0
8:45 AM	0	27	1	0	4	14	0	0	1	0	0	0	3	0	11	0	61	0	2	0	2
8:50 AM	2	24	2	0	4	21	2	0	1	0	0	0	3	1	15	0	75	0	0	0	6
8:55 AM	2	30	3	0	11	29	1	0	1	0	1	0	3	0	7	0	88	4	1	4	6
Total Survey	19	578	74	1	105	396	15	0	11	1	7	0	96	7	205	0	1,514	7	7	26	27

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	61	5	0	4	27	0	0	0	0	0	0	3	0	14	0	115	0	0	0	0
7:15 AM	1	66	8	0	2	30	1	0	0	0	1	0	14	1	18	0	142	0	0	4	1
7:30 AM	0	98	7	0	2	41	1	0	3	0	0	0	12	0	28	0	192	0	0	2	0
7:45 AM	1	82	11	0	16	67	1	0	1	0	3	0	10	0	27	0	219	0	0	4	1
8:00 AM	1	78	12	0	29	71	1	0	3	0	0	0	18	0	32	0	245	0	2	3	1
8:15 AM	6	53	14	0	21	58	4	0	0	0	1	0	17	4	34	0	212	1	0	2	2
8:30 AM	5	59	11	1	12	38	4	0	1	1	1	0	13	1	19	0	165	2	2	7	8
8:45 AM	4	81	6	0	19	64	3	0	3	0	1	0	9	1	33	0	224	4	3	4	14
Total Survey	19	578	74	1	105	396	15	0	11	1	7	0	96	7	205	0	1,514	7	7	26	27

Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	350	304	654	0	327	411	738	0	11	27	38	0	181	127	308	0	869	3	4	12	12
%HV	3.1%				1.2%				0.0%				2.8%				2.3%				
PHF	0.80				0.81				0.46				0.82				0.89				

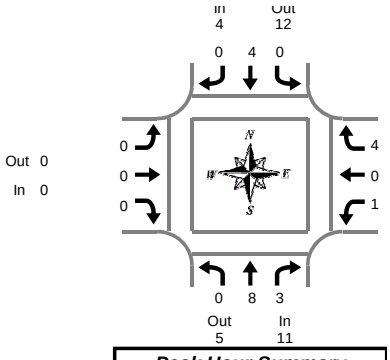
By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	11	289	50	350	76	240	11	327	6	1	4	11	60	5	116	181	869
%HV	0.0%	2.8%	6.0%	3.1%	0.0%	1.7%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	3.4%	2.8%	2.3%
PHF	0.46	0.75	0.83	0.80	0.59	0.82	0.55	0.81	0.38	0.25	0.33	0.46	0.75	0.31	0.85	0.82	0.89

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	307	31	0	24	165	3	0	4	0	4	0	39	1	87	0	668	0	0	10	2
7:15 AM	3	324	38	0	49	209	4	0	7	0	4	0	54	1	105	0	798	0	2	13	3
7:30 AM	8	311	44	0	68	237	7	0	7	0	4	0	57	4	121	0	868	1	2	11	4
7:45 AM	13	272	48	1	78	234	10	0	5	1	5	0	58	5	112	0	841	3	4	16	12
8:00 AM	16	271	43	1	81	231	12	0	7	1	3	0	57	6	118	0	846	7	7	16	25

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Salamo Rd & Parker Rd

Wednesday, January 27, 2016
7:00 AM to 9:00 AM

Peak Hour Summary
7:40 AM to 8:40 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:10 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:20 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	4	1	5	0	1	0	1	0	0	0	0	0	0	0	0	6
7:35 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:40 AM	0	2	1	3	0	1	0	1	0	0	0	0	0	0	1	1	5
7:45 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
7:50 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:55 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	3	3	5
8:05 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
8:10 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:50 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
8:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Survey	0	17	4	21	0	6	0	6	0	0	0	0	2	0	7	9	36

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
7:15 AM	0	1	0	1	0	1	0	1	0	0	0	0	1	0	0	1	3
7:30 AM	0	7	2	9	0	2	0	2	0	0	0	0	0	0	1	1	12
7:45 AM	0	4	1	5	0	1	0	1	0	0	0	0	0	0	0	0	6
8:00 AM	0	2	1	3	0	2	0	2	0	0	0	0	0	0	3	3	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	2	4
Total Survey	0	17	4	21	0	6	0	6	0	0	0	0	2	0	7	9	36

Heavy Vehicle Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Salamo Rd			Southbound Salamo Rd			Eastbound Parker Rd			Westbound Parker Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	11	5	16	4	12	16	0	0	0	5	3	8	20
PHF	0.46			0.50			0.00			0.42			0.56

By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	8	3	11	0	4	0	4	0	0	0	0	1	0	4	5	20
PHF	0.00	0.50	0.38	0.46	0.00	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.25	0.00	0.33	0.42	0.56

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

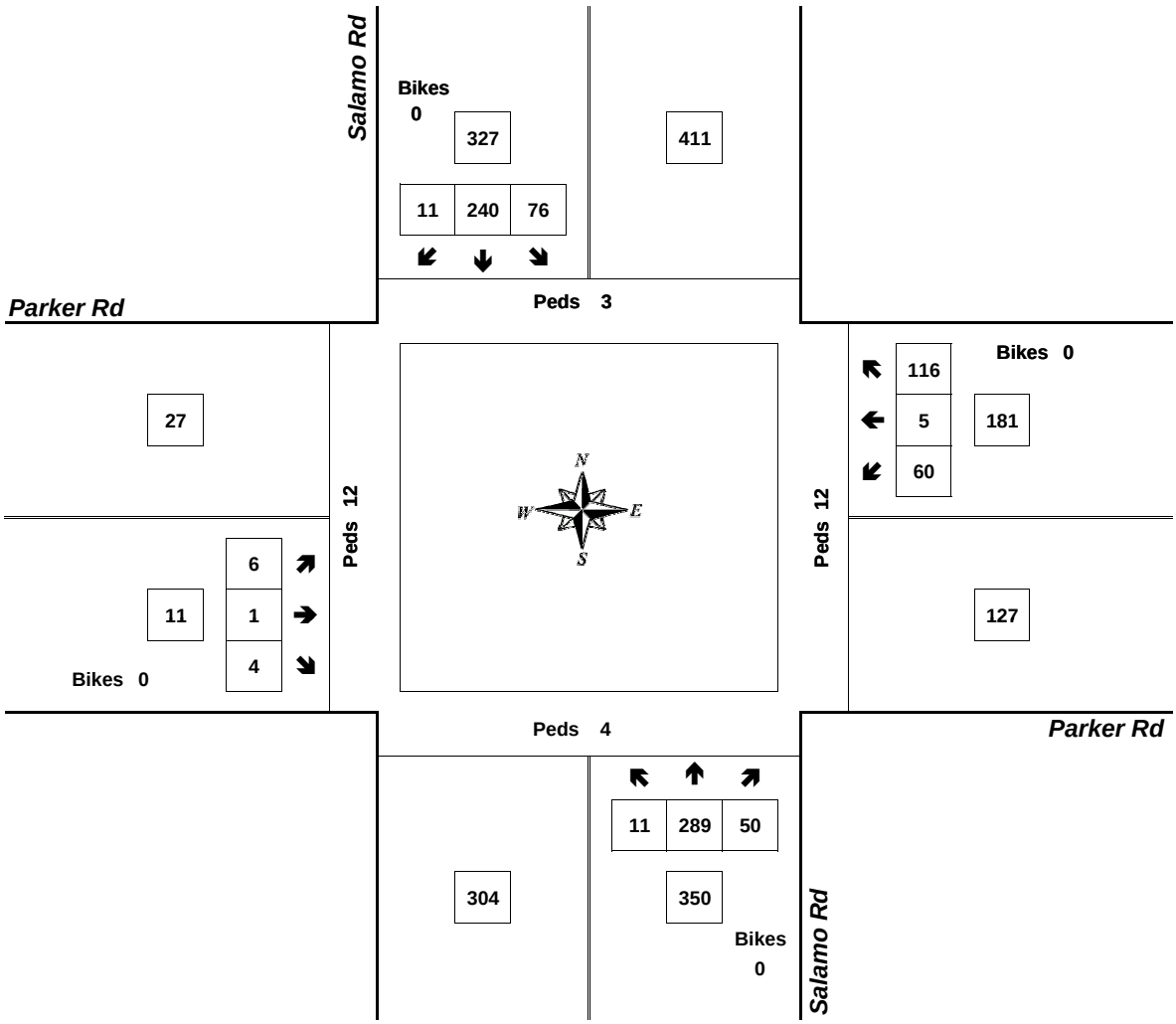
Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	13	3	16	0	4	0	4	0	0	0	0	1	0	2	3	23
7:15 AM	0	14	4	18	0	6	0	6	0	0	0	0	1	0	4	5	29
7:30 AM	0	13	4	17	0	5	0	5	0	0	0	0	1	0	4	5	27
7:45 AM	0	6	2	8	0	3	0	3	0	0	0	0	1	0	3	4	15
8:00 AM	0	4	1	5	0	2	0	2	0	0	0	0	1	0	5	6	13

Peak Hour Summary

Clay Carney
(503) 833-2740

Salamo Rd & Parker Rd

7:40 AM to 8:40 AM
Wednesday, January 27, 2016

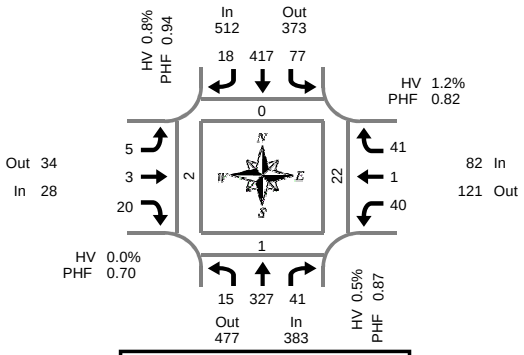


Approach	PHF	HV%	Volume
EB	0.46	0.0%	11
WB	0.82	2.8%	181
NB	0.80	3.1%	350
SB	0.81	1.2%	327
Intersection	0.89	2.3%	869

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:55 PM to 5:55 PM

Salamo Rd & Parker Rd

Tuesday, January 26, 2016
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	19	3	0	10	41	1	0	0	1	4	0	2	0	5	0	86	10	0	10	0
4:05 PM	0	23	5	0	7	33	0	0	0	0	2	0	2	0	3	0	75	0	1	2	0
4:10 PM	0	27	2	0	7	25	0	0	2	0	0	0	4	0	1	0	68	0	0	0	0
4:15 PM	0	23	4	0	4	30	0	0	0	0	0	0	4	0	1	0	66	0	0	1	0
4:20 PM	1	30	6	0	5	24	1	0	0	0	1	0	2	0	4	0	74	2	0	2	0
4:25 PM	0	30	2	0	4	41	0	0	0	0	0	0	1	0	1	0	79	0	0	2	0
4:30 PM	1	21	5	0	6	29	0	0	0	0	0	0	2	0	4	0	68	0	0	1	0
4:35 PM	2	14	6	1	3	25	0	0	0	0	0	0	4	0	2	0	56	0	0	2	0
4:40 PM	0	11	4	0	4	33	0	0	0	0	0	0	3	0	2	0	57	0	0	0	1
4:45 PM	0	23	4	0	5	43	0	0	1	0	2	0	3	0	2	0	83	0	0	1	1
4:50 PM	1	25	3	0	4	30	1	0	0	0	0	0	1	0	3	0	68	0	0	0	0
4:55 PM	0	27	2	0	7	52	1	0	0	1	1	0	1	0	1	0	93	0	0	1	0
5:00 PM	0	24	5	0	6	26	1	0	2	0	3	0	1	0	1	0	69	0	1	2	0
5:05 PM	3	35	6	0	6	29	0	0	0	1	2	0	3	0	2	0	87	0	0	0	1
5:10 PM	0	21	0	0	7	37	0	0	0	1	1	0	4	0	7	0	78	0	0	2	0
5:15 PM	0	34	4	0	7	34	2	0	1	0	0	0	5	1	2	0	90	0	0	2	0
5:20 PM	2	24	2	0	8	41	0	0	0	0	1	0	2	0	4	0	84	0	0	0	0
5:25 PM	0	27	4	0	7	29	2	0	0	0	6	0	2	0	6	0	83	0	0	0	0
5:30 PM	0	36	4	0	7	34	3	0	1	0	2	0	6	0	2	0	95	0	0	5	0
5:35 PM	1	23	9	0	8	29	2	0	0	0	0	0	3	0	4	0	79	0	0	2	1
5:40 PM	5	32	0	0	4	39	2	0	1	0	2	0	2	0	5	0	92	0	0	2	0
5:45 PM	4	24	3	0	5	30	1	0	0	0	0	0	5	0	5	0	77	0	0	3	0
5:50 PM	0	20	2	0	5	37	4	0	0	0	2	0	6	0	2	0	78	0	0	3	0
5:55 PM	3	24	4	0	9	36	5	0	0	0	2	0	0	0	2	0	85	0	0	0	0
Total Survey	23	597	89	1	145	807	26	0	8	4	31	0	68	1	71	0	1,870	12	2	43	4

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	69	10	0	24	99	1	0	2	1	6	0	8	0	9	0	229	10	1	12	0
4:15 PM	1	83	12	0	13	95	1	0	0	0	1	0	7	0	6	0	219	2	0	5	0
4:30 PM	3	46	15	1	13	87	0	0	0	0	0	0	9	0	8	0	181	0	0	3	1
4:45 PM	1	75	9	0	16	125	2	0	1	1	3	0	5	0	6	0	244	0	0	2	1
5:00 PM	3	80	11	0	19	92	1	0	2	2	6	0	8	0	10	0	234	0	1	4	1
5:15 PM	2	85	10	0	22	104	4	0	1	0	7	0	9	1	12	0	257	0	0	2	0
5:30 PM	6	91	13	0	19	102	7	0	2	0	4	0	11	0	11	0	266	0	0	9	1
5:45 PM	7	68	9	0	19	103	10	0	0	0	4	0	11	0	9	0	240	0	0	6	0
Total Survey	23	597	89	1	145	807	26	0	8	4	31	0	68	1	71	0	1,870	12	2	43	4

Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	383	477	860	0	512	373	885	0	28	34	62	0	82	121	203	0	1,005	0	1	22	2
%HV	0.5%				0.8%				0.0%				1.2%				0.7%				
PHF	0.87				0.94				0.70				0.82				0.94				

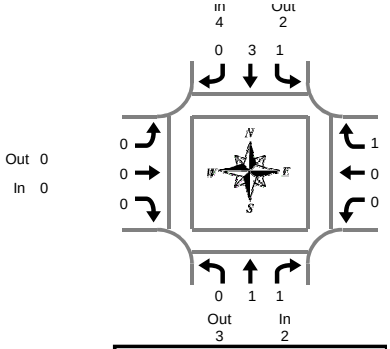
By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	15	327	41	383	77	417	18	512	5	3	20	28	40	1	41	82	1,005
%HV	0.0%	0.3%	2.4%	0.5%	1.3%	0.7%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	1.2%	0.7%
PHF	0.38	0.90	0.60	0.87	0.88	0.93	0.64	0.94	0.63	0.38	0.56	0.70	0.77	0.25	0.73	0.82	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	273	46	1	66	406	4	0	3	2	10	0	29	0	29	0	873	12	1	22	2
4:15 PM	8	284	47	1	61	399	4	0	3	3	10	0	29	0	30	0	878	2	1	14	3
4:30 PM	9	286	45	1	70	408	7	0	4	3	16	0	31	1	36	0	916	0	1	11	3
4:45 PM	12	331	43	0	76	423	14	0	6	3	20	0	33	1	39	0	1,001	0	1	17	3
5:00 PM	18	324	43	0	79	401	22	0	5	2	21	0	39	1	42	0	997	0	1	21	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Salamo Rd & Parker Rd

Tuesday, January 26, 2016
4:00 PM to 6:00 PM

Peak Hour Summary
4:55 PM to 5:55 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	1	0	1	0	1	0	1	0	0	0	0	1	0	0	1	3
4:10 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:35 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	1	1	1	0	2	0	0	0	0	0	0	0	0	3
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	3	2	5	2	5	0	7	0	0	0	0	1	0	1	2	14

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	1	1	0	2	0	0	0	0	1	0	0	1	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	1	1	1	1	0	2	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	3	2	5	2	5	0	7	0	0	0	0	1	0	1	2	14

Heavy Vehicle Peak Hour Summary
4:55 PM to 5:55 PM

By Approach	Northbound Salamo Rd			Southbound Salamo Rd			Eastbound Parker Rd			Westbound Parker Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	3	5	4	2	6	0	0	0	1	2	3	7
PHF	0.25			0.50			0.00			0.25			0.44

By Movement	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1	1	2	1	3	0	4	0	0	0	0	0	0	1	1	7
PHF	0.00	0.25	0.25	0.25	0.25	0.75	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.44

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

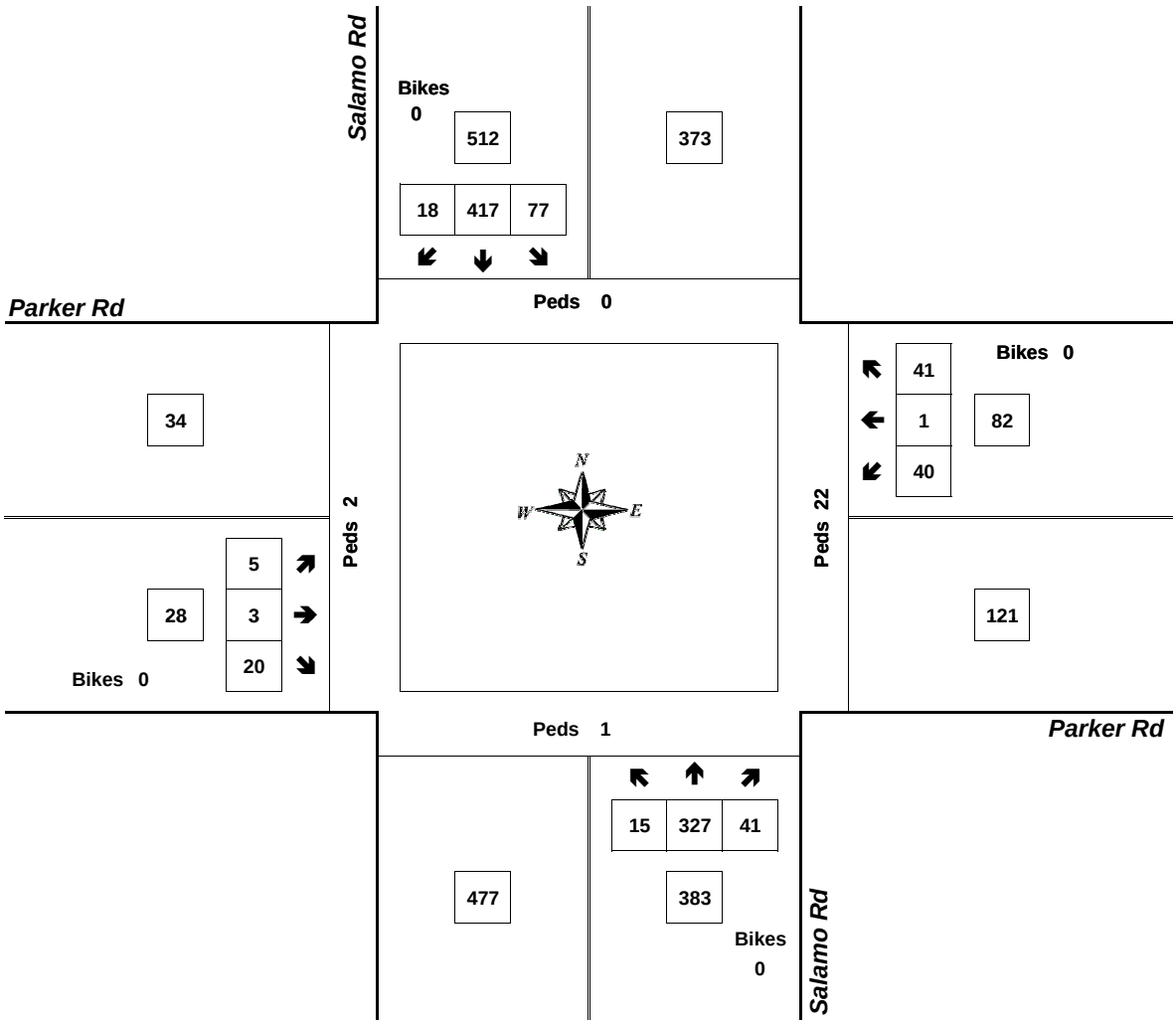
Interval Start Time	Northbound Salamo Rd				Southbound Salamo Rd				Eastbound Parker Rd				Westbound Parker Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	1	3	1	3	0	4	0	0	0	0	1	0	0	1	8
4:15 PM	0	2	1	3	0	2	0	2	0	0	0	0	0	0	0	0	5
4:30 PM	0	2	2	4	1	3	0	4	0	0	0	0	0	0	0	0	8
4:45 PM	0	1	1	2	1	4	0	5	0	0	0	0	0	0	1	1	8
5:00 PM	0	1	1	2	1	2	0	3	0	0	0	0	0	0	1	1	6

Peak Hour Summary

Clay Carney
(503) 833-2740

Salamo Rd & Parker Rd

4:55 PM to 5:55 PM
Tuesday, January 26, 2016



Approach	PHF	HV%	Volume
EB	0.70	0.0%	28
WB	0.82	1.2%	82
NB	0.87	0.5%	383
SB	0.94	0.8%	512
Intersection	0.94	0.7%	1,005

Count Period: 4:00 PM to 6:00 PM

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 52

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**10**	**29**	**39**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**33**	**19**	**52**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**248**	**248**	**496**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**258**	**258**	**516**

Source: TRIP GENERATION, Ninth Edition

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

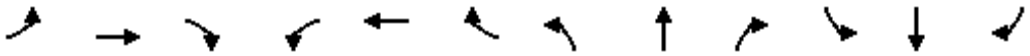
LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711	1580		1755	1771		1730	1770		1737	1797	
Flt Permitted	0.45	1.00		0.53	1.00		0.50	1.00		0.60	1.00	
Satd. Flow (perm)	819	1580		977	1771		912	1770		1096	1797	
Volume (vph)	18	51	128	60	152	59	221	173	34	17	152	26
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	22	64	160	75	190	74	276	216	42	21	190	32
RTOR Reduction (vph)	0	129	0	0	27	0	0	9	0	0	9	0
Lane Group Flow (vph)	22	95	0	75	237	0	276	249	0	21	213	0
Confl. Peds. (#/hr)	5		8	8		5	7		15	15		7
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8	8		2			6		
Actuated Green, G (s)	8.8	8.8		8.8	8.8		29.1	24.2		18.0	17.1	
Effective Green, g (s)	8.8	8.8		8.8	8.8		29.1	24.2		18.0	17.1	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.63	0.53		0.39	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	303		187	340		721	933		442	669	
v/s Ratio Prot		0.06			c0.13		c0.07	0.14		0.00	0.12	
v/s Ratio Perm	0.03			0.08			c0.18			0.02		
v/c Ratio	0.14	0.31		0.40	0.70		0.38	0.27		0.05	0.32	
Uniform Delay, d1	15.4	15.9		16.2	17.3		3.9	6.0		8.6	10.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.6		1.4	6.1		0.3	0.2		0.0	0.3	
Delay (s)	15.8	16.5		17.7	23.4		4.2	6.1		8.6	10.5	
Level of Service	B	B		B	C		A	A		A	B	
Approach Delay (s)		16.5			22.2			5.1			10.4	
Approach LOS		B			C			A			B	

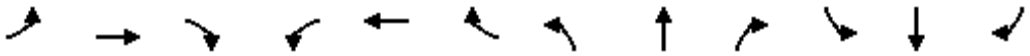
Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	45.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	106	8	22	220	0	41	0	32	0	0	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	119	9	25	247	0	46	0	36	0	0	0
Pedestrians		8			3			5			14	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	261			133			433	439	132	473	444	269
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	261			133			433	439	132	473	444	269
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			91	100	96	100	100	100
cM capacity (veh/h)	1238			1440			516	496	914	466	495	760

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	128	272	82	0
Volume Left	0	25	46	0
Volume Right	9	0	36	0
cSH	1238	1440	637	1700
Volume to Capacity	0.00	0.02	0.13	0.00
Queue Length 95th (ft)	0	1	11	0
Control Delay (s)	0.0	0.8	11.5	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.8	11.5	0.0
Approach LOS			B	A

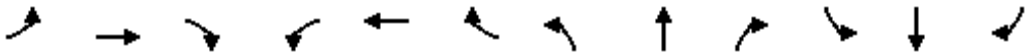
Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	1	4	60	5	116	11	289	50	76	240	11
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	7	1	4	67	6	130	12	325	56	85	270	12
Pedestrians		12			12			4			3	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	944	876	292	839	854	368	294			393		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	944	876	292	839	854	368	294			393		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	99	74	98	80	99			93		
cM capacity (veh/h)	176	260	742	256	265	667	1249			1159		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	7	6	67	136	12	381	85	282
Volume Left	7	0	67	0	12	0	85	0
Volume Right	0	4	0	130	0	56	0	12
cSH	176	542	256	628	1249	1700	1159	1700
Volume to Capacity	0.04	0.01	0.26	0.22	0.01	0.22	0.07	0.17
Queue Length 95th (ft)	3	1	26	20	1	0	6	0
Control Delay (s)	26.3	11.7	24.0	12.3	7.9	0.0	8.4	0.0
Lane LOS	D	B	C	B	A		A	
Approach Delay (s)	19.6		16.2		0.2		1.9	
Approach LOS	C		C					

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	42.9%	ICU Level of Service	A	
Analysis Period (min)	15			



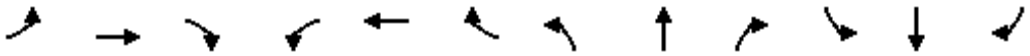
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	0	3	5	0	8	1	61	2	2	27	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	4	0	3	6	0	9	1	69	2	2	30	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	116	108	31	111	108	70	31			71		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	116	108	31	111	108	70	31			71		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	99	100			100		
cM capacity (veh/h)	851	780	1043	863	781	993	1581			1530		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	15	72	34
Volume Left	4	6	1	2
Volume Right	3	9	2	1
cSH	924	939	1581	1530
Volume to Capacity	0.01	0.02	0.00	0.00
Queue Length 95th (ft)	1	1	0	0
Control Delay (s)	8.9	8.9	0.1	0.5
Lane LOS	A	A	A	A
Approach Delay (s)	8.9	8.9	0.1	0.5
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	13.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.95		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1698		1766	1758		1786	1801		1799	1879	
Flt Permitted	0.68	1.00		0.25	1.00		0.53	1.00		0.58	1.00	
Satd. Flow (perm)	1263	1698		468	1758		999	1801		1094	1879	
Volume (vph)	31	220	283	54	79	36	108	199	62	39	204	14
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	33	237	304	58	85	39	116	214	67	42	219	15
RTOR Reduction (vph)	0	87	0	0	24	0	0	18	0	0	4	0
Lane Group Flow (vph)	33	454	0	58	100	0	116	263	0	42	230	0
Confl. Peds. (#/hr)	8		4	4		8	1		7	7		1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8	8		2			6		
Actuated Green, G (s)	15.9	15.9		15.9	15.9		15.4	13.0		13.0	11.8	
Effective Green, g (s)	15.9	15.9		15.9	15.9		15.4	13.0		13.0	11.8	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.37	0.31		0.31	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	477	641		177	664		410	556		358	527	
v/s Ratio Prot		c0.27			0.06		c0.02	c0.15		0.00	0.12	
v/s Ratio Perm	0.03			0.12			0.09			0.03		
v/c Ratio	0.07	0.71		0.33	0.15		0.28	0.47		0.12	0.44	
Uniform Delay, d1	8.4	11.1		9.3	8.6		9.1	11.8		10.3	12.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	3.6		1.1	0.1		0.4	0.6		0.1	0.6	
Delay (s)	8.4	14.7		10.4	8.7		9.5	12.4		10.4	13.0	
Level of Service	A	B		B	A		A	B		B	B	
Approach Delay (s)		14.3			9.3			11.6			12.6	
Approach LOS		B			A			B			B	

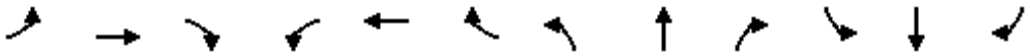
Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	291	21	39	150	0	19	1	49	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	323	23	43	167	0	21	1	54	1	1	0
Pedestrians					1						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	170			347			593	596	336	652	607	170
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	170			347			593	596	336	652	607	170
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			95	100	92	100	100	100
cM capacity (veh/h)	1410			1212			406	403	710	342	397	877

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	349	210	77	2
Volume Left	2	43	21	1
Volume Right	23	0	54	0
cSH	1410	1212	584	367
Volume to Capacity	0.00	0.04	0.13	0.01
Queue Length 95th (ft)	0	3	11	0
Control Delay (s)	0.1	1.9	12.1	14.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	1.9	12.1	14.9
Approach LOS			B	B

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	3	20	40	1	41	15	327	41	77	417	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	3	21	43	1	44	16	348	44	82	444	19
Pedestrians		2			22			1				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			2			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1043	1064	456	1055	1052	392	465			413		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1043	1064	456	1055	1052	392	465			413		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.0	4.0	3.3	2.2			2.2		
p0 queue free %	97	98	96	78	99	93	99			93		
cM capacity (veh/h)	179	201	607	193	204	647	1100			1130		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	5	24	43	45	16	391	82	463
Volume Left	5	0	43	0	16	0	82	0
Volume Right	0	21	0	44	0	44	0	19
cSH	179	481	193	615	1100	1700	1130	1700
Volume to Capacity	0.03	0.05	0.22	0.07	0.01	0.23	0.07	0.27
Queue Length 95th (ft)	2	4	20	6	1	0	6	0
Control Delay (s)	25.8	12.9	28.8	11.3	8.3	0.0	8.4	0.0
Lane LOS	D	B	D	B	A		A	
Approach Delay (s)	15.2		19.8		0.3		1.3	
Approach LOS	C		C					

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	45.3%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

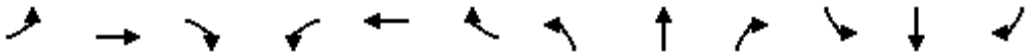
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	2	4	0	5	3	62	6	8	48	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	0	2	4	0	6	3	69	7	9	53	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	158	156	56	155	156	72	59			76		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	158	156	56	155	156	72	59			76		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	99	100			99		
cM capacity (veh/h)	798	730	1010	805	730	990	1545			1524		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	10	79	68
Volume Left	2	4	3	9
Volume Right	2	6	7	6
cSH	892	898	1545	1524
Volume to Capacity	0.00	0.01	0.00	0.01
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	9.1	9.1	0.3	1.0
Lane LOS	A	A	A	A
Approach Delay (s)	9.1	9.1	0.3	1.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711	1579		1755	1772		1730	1770		1737	1796	
Flt Permitted	0.45	1.00		0.51	1.00		0.49	1.00		0.59	1.00	
Satd. Flow (perm)	810	1579		933	1772		889	1770		1086	1796	
Volume (vph)	19	53	133	62	158	61	230	180	35	18	158	27
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	24	66	166	78	198	76	288	225	44	22	198	34
RTOR Reduction (vph)	0	134	0	0	26	0	0	10	0	0	9	0
Lane Group Flow (vph)	24	98	0	78	248	0	288	259	0	22	223	0
Confl. Peds. (#/hr)	5		8	8		5	7		15	15		7
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8	8		2			6		
Actuated Green, G (s)	8.9	8.9		8.9	8.9		29.7	25.0		17.9	17.2	
Effective Green, g (s)	8.9	8.9		8.9	8.9		29.7	25.0		17.9	17.2	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.64	0.54		0.38	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	155	302		178	338		720	950		427	663	
v/s Ratio Prot		0.06			c0.14		c0.07	0.15		0.00	0.12	
v/s Ratio Perm	0.03			0.08			c0.18			0.02		
v/c Ratio	0.15	0.32		0.44	0.73		0.40	0.27		0.05	0.34	
Uniform Delay, d1	15.7	16.3		16.6	17.7		3.9	5.9		9.0	10.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.6		1.7	8.0		0.4	0.2		0.1	0.3	
Delay (s)	16.2	16.9		18.4	25.8		4.3	6.0		9.0	10.9	
Level of Service	B	B		B	C		A	A		A	B	
Approach Delay (s)		16.8			24.1			5.1			10.7	
Approach LOS		B			C			A			B	

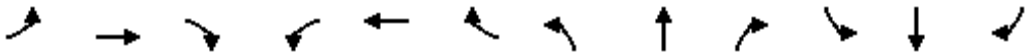
Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	110	8	23	229	0	43	0	33	0	0	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	124	9	26	257	0	48	0	37	0	0	0
Pedestrians		8			3			5			14	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	271			138			450	456	136	491	461	279
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	271			138			450	456	136	491	461	279
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			90	100	96	100	100	100
cM capacity (veh/h)	1227			1434			502	485	909	452	484	750

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	133	283	85	0
Volume Left	0	26	48	0
Volume Right	9	0	37	0
cSH	1227	1434	623	1700
Volume to Capacity	0.00	0.02	0.14	0.00
Queue Length 95th (ft)	0	1	12	0
Control Delay (s)	0.0	0.8	11.7	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.8	11.7	0.0
Approach LOS			B	A

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	1	4	62	5	121	11	301	52	79	250	11
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	7	1	4	70	6	136	12	338	58	89	281	12
Pedestrians		12			12			4			3	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	981	910	303	872	887	382	305			409		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	981	910	303	872	887	382	305			409		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	99	71	98	79	99			92		
cM capacity (veh/h)	163	248	732	243	252	654	1237			1144		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	7	6	70	142	12	397	89	293
Volume Left	7	0	70	0	12	0	89	0
Volume Right	0	4	0	136	0	58	0	12
cSH	163	526	243	616	1237	1700	1144	1700
Volume to Capacity	0.04	0.01	0.29	0.23	0.01	0.23	0.08	0.17
Queue Length 95th (ft)	3	1	29	22	1	0	6	0
Control Delay (s)	28.0	11.9	25.7	12.6	7.9	0.0	8.4	0.0
Lane LOS	D	B	D	B	A		A	
Approach Delay (s)	20.7		16.9		0.2		2.0	
Approach LOS	C		C					

Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	0	3	5	0	8	1	64	2	2	28	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	4	0	3	6	0	9	1	72	2	2	31	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	121	113	32	115	112	73	33			74		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	121	113	32	115	112	73	33			74		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	99	100			100		
cM capacity (veh/h)	845	776	1042	857	776	989	1579			1525		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	15	75	35
Volume Left	4	6	1	2
Volume Right	3	9	2	1
cSH	920	934	1579	1525
Volume to Capacity	0.01	0.02	0.00	0.00
Queue Length 95th (ft)	1	1	0	0
Control Delay (s)	8.9	8.9	0.1	0.5
Lane LOS	A	A	A	A
Approach Delay (s)	8.9	8.9	0.1	0.5
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	13.8%	ICU Level of Service	A	
Analysis Period (min)	15			

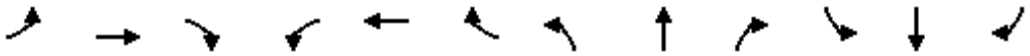
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.95		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1698		1766	1759		1786	1801		1799	1879	
Flt Permitted	0.67	1.00		0.24	1.00		0.53	1.00		0.54	1.00	
Satd. Flow (perm)	1258	1698		453	1759		1006	1801		1016	1879	
Volume (vph)	32	229	294	56	82	37	112	207	65	41	212	15
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	34	246	316	60	88	40	120	223	70	44	228	16
RTOR Reduction (vph)	0	86	0	0	25	0	0	18	0	0	4	0
Lane Group Flow (vph)	34	476	0	60	103	0	120	275	0	44	240	0
Confl. Peds. (#/hr)	8		4	4		8	1		7	7		1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8	8		2			6		
Actuated Green, G (s)	16.4	16.4		16.4	16.4		14.9	13.0		13.3	12.2	
Effective Green, g (s)	16.4	16.4		16.4	16.4		14.9	13.0		13.3	12.2	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.35	0.31		0.31	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	485	655		175	679		388	551		338	539	
v/s Ratio Prot		c0.28			0.06		c0.01	c0.15		0.00	0.13	
v/s Ratio Perm	0.03			0.13			0.09			0.04		
v/c Ratio	0.07	0.73		0.34	0.15		0.31	0.50		0.13	0.44	
Uniform Delay, d1	8.2	11.1		9.2	8.5		9.7	12.1		10.3	12.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	4.0		1.2	0.1		0.5	0.7		0.2	0.6	
Delay (s)	8.3	15.2		10.4	8.6		10.1	12.8		10.5	13.0	
Level of Service	A	B		B	A		B	B		B	B	
Approach Delay (s)		14.8			9.2			12.0			12.6	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	42.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	303	22	41	156	0	20	1	51	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	337	24	46	173	0	22	1	57	1	1	0
Pedestrians					1						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	176			361			618	621	350	679	633	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	176			361			618	621	350	679	633	176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			94	100	92	100	100	100
cM capacity (veh/h)	1402			1198			390	389	697	326	383	870

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	363	219	80	2
Volume Left	2	46	22	1
Volume Right	24	0	57	0
cSH	1402	1198	567	352
Volume to Capacity	0.00	0.04	0.14	0.01
Queue Length 95th (ft)	0	3	12	0
Control Delay (s)	0.1	2.0	12.4	15.3
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	2.0	12.4	15.3
Approach LOS			B	C

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	3	21	42	1	43	16	340	43	80	434	19
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	3	22	45	1	46	17	362	46	85	462	20
Pedestrians		2			22			1				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			2			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1086	1108	475	1097	1095	407	484			429		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1086	1108	475	1097	1095	407	484			429		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.0	4.0	3.3	2.2			2.2		
p0 queue free %	97	98	96	75	99	93	98			92		
cM capacity (veh/h)	165	189	592	179	191	635	1082			1115		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	5	26	45	47	17	407	85	482
Volume Left	5	0	45	0	17	0	85	0
Volume Right	0	22	0	46	0	46	0	20
cSH	165	467	179	603	1082	1700	1115	1700
Volume to Capacity	0.03	0.05	0.25	0.08	0.02	0.24	0.08	0.28
Queue Length 95th (ft)	2	4	24	6	1	0	6	0
Control Delay (s)	27.5	13.1	31.7	11.5	8.4	0.0	8.5	0.0
Lane LOS	D	B	D	B	A		A	
Approach Delay (s)	15.6		21.3		0.3		1.3	
Approach LOS	C		C					

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	46.3%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	2	4	0	5	3	65	6	8	51	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	0	2	4	0	6	3	72	7	9	57	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	165	163	59	162	162	76	62			79		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	165	163	59	162	162	76	62			79		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	99	100			99		
cM capacity (veh/h)	790	724	1006	797	724	986	1541			1519		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	10	82	71
Volume Left	2	4	3	9
Volume Right	2	6	7	6
cSH	885	892	1541	1519
Volume to Capacity	0.01	0.01	0.00	0.01
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	9.1	9.1	0.3	1.0
Lane LOS	A	A	A	A
Approach Delay (s)	9.1	9.1	0.3	1.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	16.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711	1582		1755	1772		1730	1770		1737	1796	
Flt Permitted	0.43	1.00		0.50	1.00		0.49	1.00		0.59	1.00	
Satd. Flow (perm)	783	1582		927	1772		887	1770		1086	1796	
Volume (vph)	19	55	133	62	164	63	230	180	35	18	158	27
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	24	69	166	78	205	79	288	225	44	22	198	34
RTOR Reduction (vph)	0	133	0	0	27	0	0	9	0	0	9	0
Lane Group Flow (vph)	24	102	0	78	257	0	288	260	0	22	223	0
Confl. Peds. (#/hr)	5		8	8		5	7		15	15		7
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8	8		2			6		
Actuated Green, G (s)	9.2	9.2		9.2	9.2		29.7	25.0		17.9	17.2	
Effective Green, g (s)	9.2	9.2		9.2	9.2		29.7	25.0		17.9	17.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.63	0.53		0.38	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	154	310		182	348		714	943		424	659	
v/s Ratio Prot		0.06			c0.15		c0.07	0.15		0.00	0.12	
v/s Ratio Perm	0.03			0.08			c0.18			0.02		
v/c Ratio	0.16	0.33		0.43	0.74		0.40	0.28		0.05	0.34	
Uniform Delay, d1	15.6	16.2		16.5	17.7		4.1	6.0		9.1	10.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.6		1.6	8.0		0.4	0.2		0.1	0.3	
Delay (s)	16.1	16.8		18.2	25.7		4.4	6.2		9.1	11.0	
Level of Service	B	B		B	C		A	A		A	B	
Approach Delay (s)		16.7			24.1			5.3			10.9	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	46.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	118	2	3	281	8	8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	133	2	3	316	9	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	1231					
pX, platoon unblocked						
vC, conflicting volume			135		456	134
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			135		456	134
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			1443		561	915

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	135	319	18
Volume Left	0	3	9
Volume Right	2	0	9
cSH	1700	1443	696
Volume to Capacity	0.08	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.1	10.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	10.3
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	118	8	23	232	0	43	0	35	0	0	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	133	9	26	261	0	48	0	39	0	0	0
Pedestrians		8			3			5			14	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	275			147			462	468	145	506	473	283
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	275			147			462	468	145	506	473	283
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			90	100	96	100	100	100
cM capacity (veh/h)	1224			1423			493	477	899	441	476	747

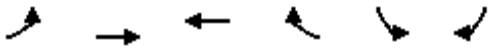
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	142	287	88	0
Volume Left	0	26	48	0
Volume Right	9	0	39	0
cSH	1224	1423	618	1700
Volume to Capacity	0.00	0.02	0.14	0.00
Queue Length 95th (ft)	0	1	12	0
Control Delay (s)	0.0	0.8	11.8	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.8	11.8	0.0
Approach LOS			B	A

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	1	4	66	5	121	11	301	54	79	250	11
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	7	1	4	74	6	136	12	338	61	89	281	12
Pedestrians		12			12			4			3	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	981	912	303	873	888	384	305			411		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	981	912	303	873	888	384	305			411		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	99	69	98	79	99			92		
cM capacity (veh/h)	163	247	732	242	252	653	1237			1142		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	7	6	74	142	12	399	89	293
Volume Left	7	0	74	0	12	0	89	0
Volume Right	0	4	0	136	0	61	0	12
cSH	163	525	242	615	1237	1700	1142	1700
Volume to Capacity	0.04	0.01	0.31	0.23	0.01	0.23	0.08	0.17
Queue Length 95th (ft)	3	1	31	22	1	0	6	0
Control Delay (s)	28.0	11.9	26.3	12.6	7.9	0.0	8.4	0.0
Lane LOS	D	B	D	B	A		A	
Approach Delay (s)	20.7		17.3		0.2		2.0	
Approach LOS	C		C					

Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	44.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	132	188	2	6	4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	2	148	211	2	7	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	213				365	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	213				365	212
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1369				633	828

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	151	213	11
Volume Left	2	0	7
Volume Right	0	2	4
cSH	1369	1700	699
Volume to Capacity	0.00	0.13	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	0.1	0.0	10.2
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	0	4	5	0	8	2	64	2	2	28	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	7	0	4	6	0	9	2	72	2	2	31	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	123	115	32	119	115	73	33			74		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	123	115	32	119	115	73	33			74		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	99	100			100		
cM capacity (veh/h)	842	773	1042	852	773	989	1579			1525		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	11	15	76	35
Volume Left	7	6	2	2
Volume Right	4	9	2	1
cSH	912	931	1579	1525
Volume to Capacity	0.01	0.02	0.00	0.00
Queue Length 95th (ft)	1	1	0	0
Control Delay (s)	9.0	8.9	0.2	0.5
Lane LOS	A	A	A	A
Approach Delay (s)	9.0	8.9	0.2	0.5
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	14.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.95		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1700		1766	1760		1786	1801		1799	1879	
Flt Permitted	0.67	1.00		0.24	1.00		0.53	1.00		0.53	1.00	
Satd. Flow (perm)	1253	1700		445	1760		1003	1801		1011	1879	
Volume (vph)	32	235	294	56	86	38	112	207	65	43	212	15
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	34	253	316	60	92	41	120	223	70	46	228	16
RTOR Reduction (vph)	0	83	0	0	25	0	0	18	0	0	4	0
Lane Group Flow (vph)	34	486	0	60	108	0	120	275	0	46	240	0
Confl. Peds. (#/hr)	8		4	4		8	1		7	7		1
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	0%	0%	0%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8	8		2			6		
Actuated Green, G (s)	16.7	16.7		16.7	16.7		15.0	13.1		13.4	12.3	
Effective Green, g (s)	16.7	16.7		16.7	16.7		15.0	13.1		13.4	12.3	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.35	0.31		0.31	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	488	662		173	685		385	550		336	539	
v/s Ratio Prot		c0.29			0.06		c0.01	c0.15		0.00	0.13	
v/s Ratio Perm	0.03			0.13			0.10			0.04		
v/c Ratio	0.07	0.73		0.35	0.16		0.31	0.50		0.14	0.44	
Uniform Delay, d1	8.2	11.2		9.2	8.5		9.8	12.2		10.4	12.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	4.2		1.2	0.1		0.5	0.7		0.2	0.6	
Delay (s)	8.3	15.4		10.5	8.6		10.3	12.9		10.6	13.1	
Level of Service	A	B		B	A		B	B		B	B	
Approach Delay (s)		15.0			9.2			12.2			12.7	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	42.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	335	8	10	176	5	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	372	9	11	196	6	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	1231					
pX, platoon unblocked						
vC, conflicting volume			381		594	377
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			381		594	377
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1177		463	670

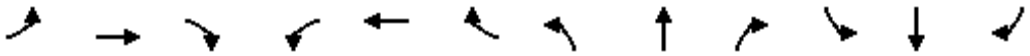
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	381	207	12
Volume Left	0	11	6
Volume Right	9	0	7
cSH	1700	1177	557
Volume to Capacity	0.22	0.01	0.02
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.5	11.6
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	11.6
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	309	22	43	166	0	20	1	51	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	343	24	48	184	0	22	1	57	1	1	0
Pedestrians					1						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	187			368			641	643	357	701	655	187
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	187			368			641	643	357	701	655	187
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			94	100	92	100	100	100
cM capacity (veh/h)	1389			1191			377	377	691	314	371	858

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	370	232	80	2
Volume Left	2	48	22	1
Volume Right	24	0	57	0
cSH	1389	1191	556	340
Volume to Capacity	0.00	0.04	0.14	0.01
Queue Length 95th (ft)	0	3	13	0
Control Delay (s)	0.1	2.0	12.6	15.7
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	2.0	12.6	15.7
Approach LOS			B	C

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

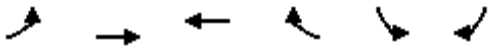


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	3	21	45	1	43	16	340	48	80	434	19
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	3	22	48	1	46	17	362	51	85	462	20
Pedestrians		2			22			1				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			2			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1086	1113	475	1100	1097	409	484			435		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1086	1113	475	1100	1097	409	484			435		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	*3.0	4.0	3.3	2.2			2.2		
p0 queue free %	97	98	96	73	99	93	98			92		
cM capacity (veh/h)	165	187	592	178	190	633	1082			1110		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	5	26	48	47	17	413	85	482
Volume Left	5	0	48	0	17	0	85	0
Volume Right	0	22	0	46	0	51	0	20
cSH	165	466	178	601	1082	1700	1110	1700
Volume to Capacity	0.03	0.05	0.27	0.08	0.02	0.24	0.08	0.28
Queue Length 95th (ft)	2	4	26	6	1	0	6	0
Control Delay (s)	27.5	13.2	32.5	11.5	8.4	0.0	8.5	0.0
Lane LOS	D	B	D	B	A		A	
Approach Delay (s)	15.6		22.1		0.3		1.3	
Approach LOS	C		C					

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A	
Analysis Period (min)	15			

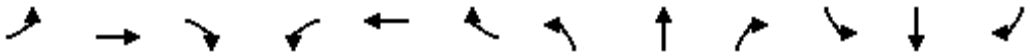
* User Entered Value



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	126	86	7	3	3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	134	91	7	3	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	99				240	95
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	99				240	95
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1507				746	961

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	139	99	6
Volume Left	5	0	3
Volume Right	0	7	3
cSH	1507	1700	840
Volume to Capacity	0.00	0.06	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.3	0.0	9.3
Lane LOS	A		A
Approach Delay (s)	0.3	0.0	9.3
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	0	4	4	0	5	4	65	6	8	51	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	0	4	4	0	6	4	72	7	9	57	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	168	166	61	167	167	76	64			79		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	168	166	61	167	167	76	64			79		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	99	100			99		
cM capacity (veh/h)	786	720	1005	788	720	986	1538			1519		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	10	83	73
Volume Left	2	4	4	9
Volume Right	4	6	7	8
cSH	919	887	1538	1519
Volume to Capacity	0.01	0.01	0.00	0.01
Queue Length 95th (ft)	1	1	0	0
Control Delay (s)	8.9	9.1	0.4	0.9
Lane LOS	A	A	A	A
Approach Delay (s)	8.9	9.1	0.4	0.9
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	15.9%	ICU Level of Service	A	
Analysis Period (min)	15			

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

ROSEMONT RD at SANTA ANITA DR, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2012														
PEDESTRIAN	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2012 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WEST LINN, CLACKAMAS COUNTY

ROSEMONT RD at SANTA ANITA DR, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

Total crash records: 1

SER# / INVEST	SPE	ALC	DRS GHT	SWC	OHR	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03279	N	N	N			09/05/2012	17	ROSEMONT RD	INTER	CROSS	N	N	CLR	PED	01	NONE 0	TURN-R											02,27
CITY						WE	0	SANTA ANITA DR	N		FLASHBCN-R	N	DRY	PED		GOVMT	E -N										000	00
						7A			05	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		029,016	000		02
																	- STRGHT W E	01	PED	INJC	24	F		I XWLK	000	035		00

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

ROSEMONT RD at SALAMO RD, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2010														
REAR-END	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2010 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WEST LINN, CLACKAMAS COUNTY

ROSEMONT RD at SALAMO RD, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

Total crash records: 1

SER# / INVEST	S P E D	A L C	U G S	R H L	S O K	W R	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01073	N	N	N				04/01/2010	17	ROSEMONT RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
NONE							TH	0	SALAMO RD	SW		STOP SIGN	N	WET	REAR		PRVTE	SW-NE										000	00
							8A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SW-NE									011		00
																	PSNGR CAR		01	DRVR	INJC	26	F	OR-Y OR<25		000	000		00

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

ROSEMONT RD at WILD ROSE DR, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2012														
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2012 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
YEAR: 2010														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2010 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**0**

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WEST LINN, CLACKAMAS COUNTY

ROSEMONT RD at WILD ROSE DR, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

Total crash records: 2

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER TYPE	MOVE FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04762	N	N	N				12/13/2010	17	ROSEMONT RD	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											27
NO RPT							MO	0	WILD ROSE DR	E		UNKNOWN	N	DRY	REAR		PRVTE	E -W									000		00
							1P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	69	M	OR-Y OR<25		016,026	000		27
																02	NONE 0	STOP									012		00
																	PRVTE	E -W											
																	PSNGR CAR		01	DRVR	NONE	58	F	OR-Y OR<25		000	000		00
00051	N	N	N				01/05/2012	17	ROSEMONT RD	INTER	3-LEG	N	N	UNK	ANGL-OTH	01	NONE 0	TURN-L											02
CITY							TH	0	WILD ROSE DR	CN		STOP SIGN	N	WET	TURN		PRVTE	S -W									015		00
							8P			01	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		028	000		02
																02	NONE 0	STRGHT									000		00
																	PRVTE	E -W											
																	PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000		00

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

SALAMO RD at PARKER RD, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2012														
REAR-END	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WEST LINN, CLACKAMAS COUNTY

SALAMO RD at PARKER RD, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

Total crash records: 1

SER# / INVEST	S P E D	A L C	U G S	R H L	S C K	W O R	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01595	N	N	N	N	N	N	05/02/2012	17	PARKER RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										004	27,07
CITY							WE	0	SALAMO RD	SW		NONE	N	DRY	REAR		PRVTE	SW-NE									000		00
							6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	61	F	OR-Y OR<25		016,026	038		27,07
																02	NONE 0	STOP											
																	PRVTE	SW-NE									011	004	00
																	PSNGR CAR		01	DRVR	INJC	44	F	OR-Y OR<25		000	000		00
																02	NONE 0	STOP											
																	PRVTE	SW-NE									011	004	00
																	PSNGR CAR		02	PSNG	INJC	21	F			000	000		00

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

ROXBURY DR at WILD ROSE DR, City of West Linn, Clackamas County, 01/01/2010 to 12/31/2014

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Site Access at Rosemont Road
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - AM Peak Hour

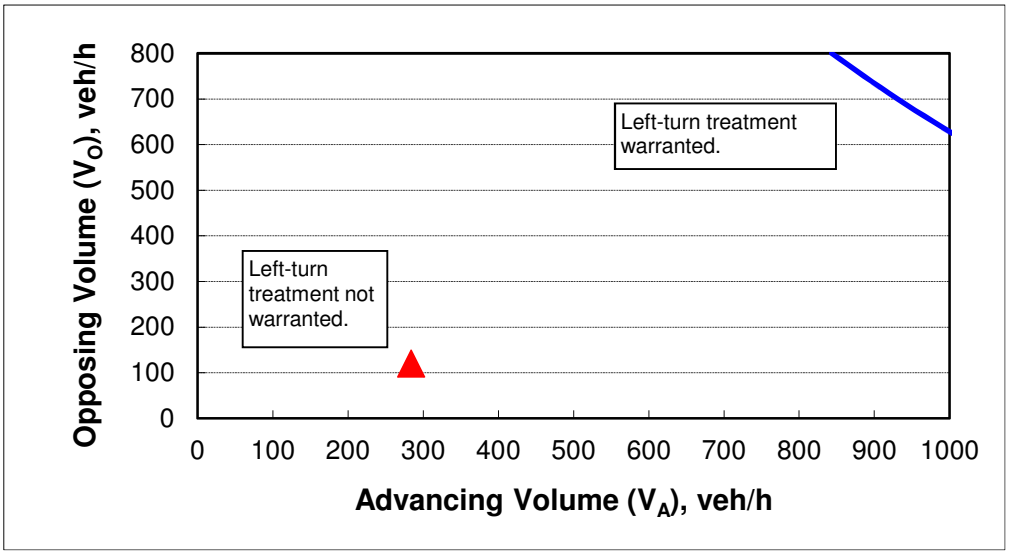
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	284
Opposing volume (V_O), veh/h:	120

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1727
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Site Access at Rosemont Road
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - PM Peak Hour

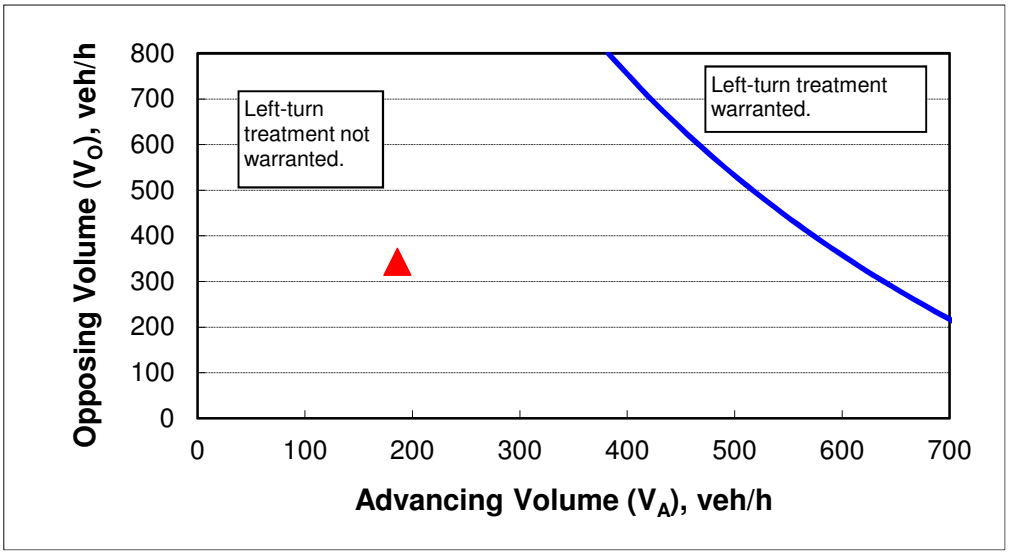
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	186
Opposing volume (V_O), veh/h:	343

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	610
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Rosemont Road at Wild Rose Drive
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - AM Peak Hour (WB LT)

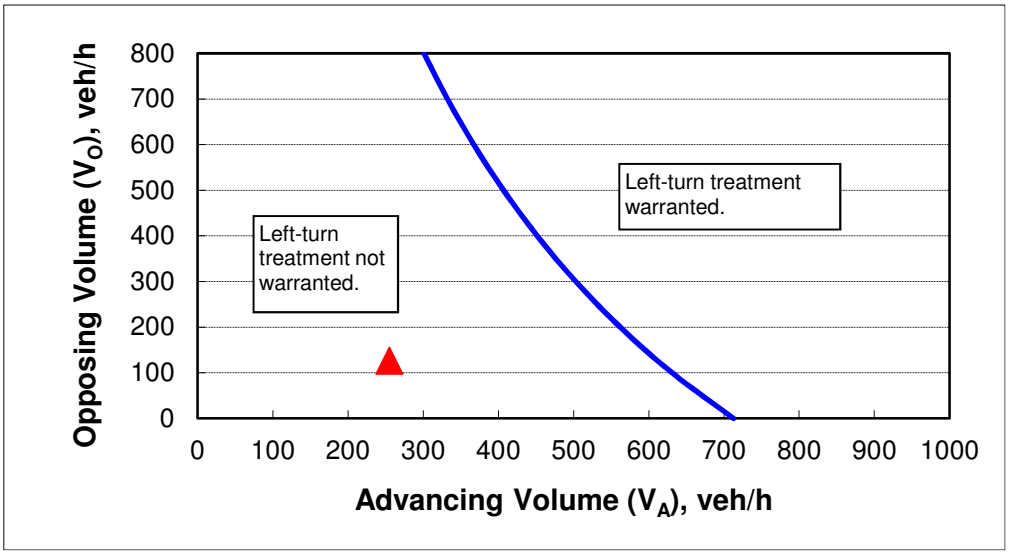
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	9%
Advancing volume (V_A), veh/h:	255
Opposing volume (V_O), veh/h:	126

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	612
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Rosemont Road at Wild Rose Drive
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - PM Peak Hour (WB LT)

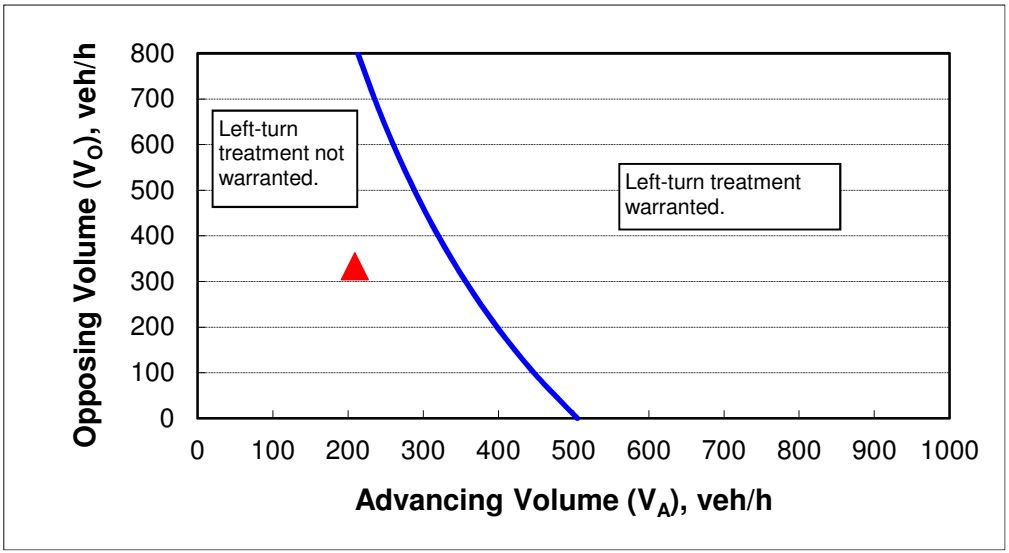
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	21%
Advancing volume (V_A), veh/h:	209
Opposing volume (V_O), veh/h:	333

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	344
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Rosemont Road at Wild Rose Drive
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - PM Peak Hour (EB LT)

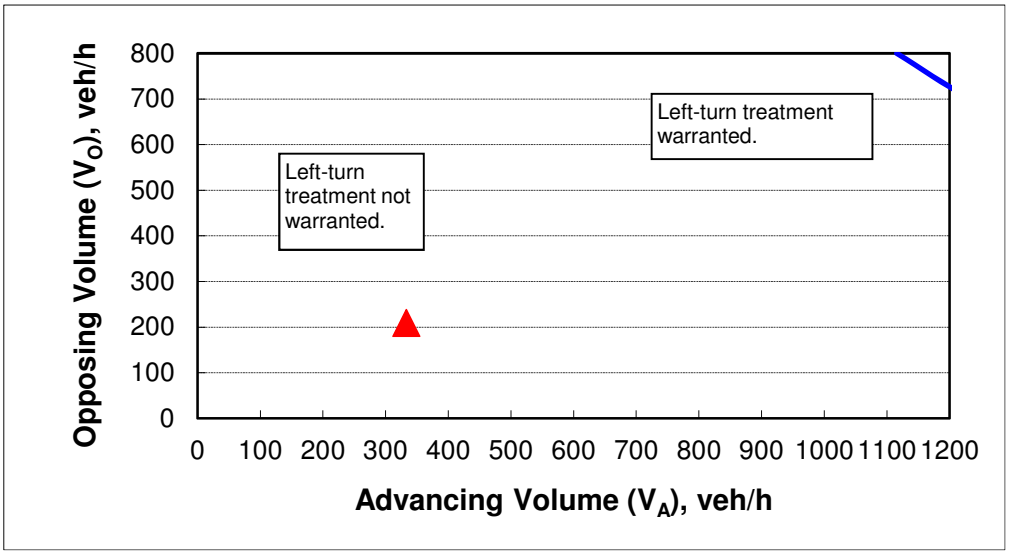
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	333
Opposing volume (V_O), veh/h:	209

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	2063
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Site Access at Parker Road
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - AM Peak Hour

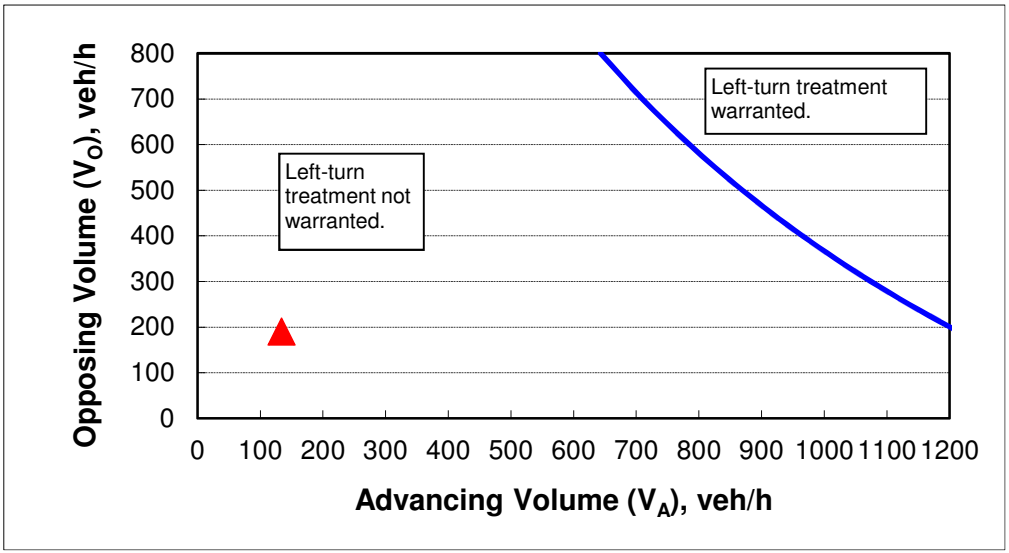
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	134
Opposing volume (V_O), veh/h:	190

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1215
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Site Access at Parker Road
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - PM Peak Hour

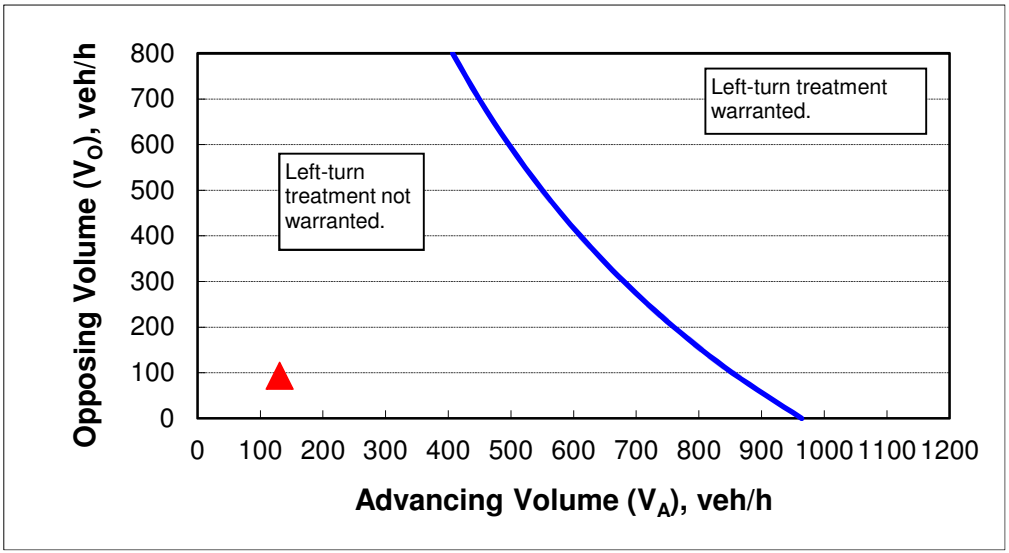
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	4%
Advancing volume (V_A), veh/h:	131
Opposing volume (V_O), veh/h:	93

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	860
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Wild Rose Drive at Roxbury Drive
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - AM Peak Hour (NB LT)

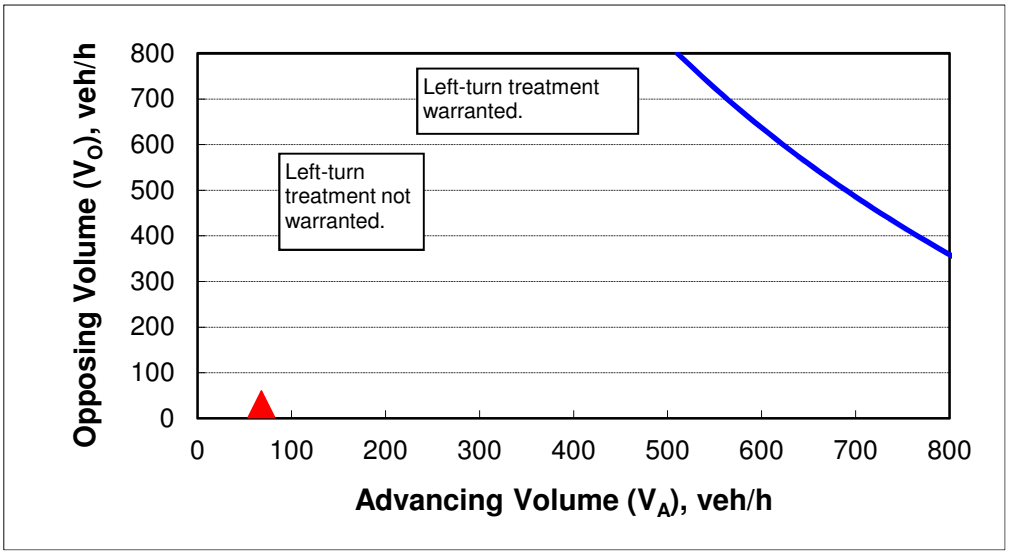
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	68
Opposing volume (V_O), veh/h:	31

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1163
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Wild Rose Drive at Roxbury Drive
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - PM Peak Hour (NB LT)

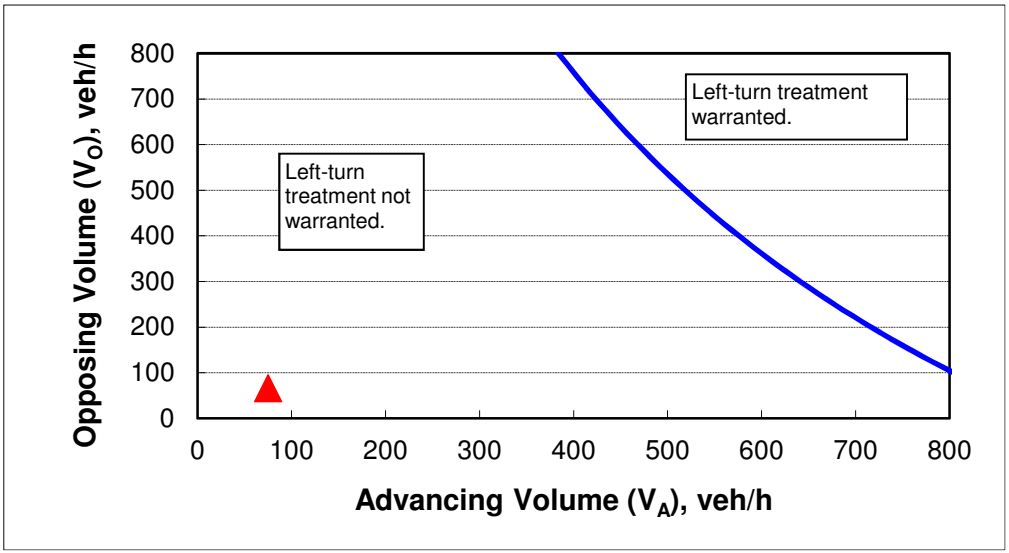
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	75
Opposing volume (V_O), veh/h:	66

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	838
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Wild Rose Drive at Roxbury Drive
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - AM Peak Hour (SB LT)

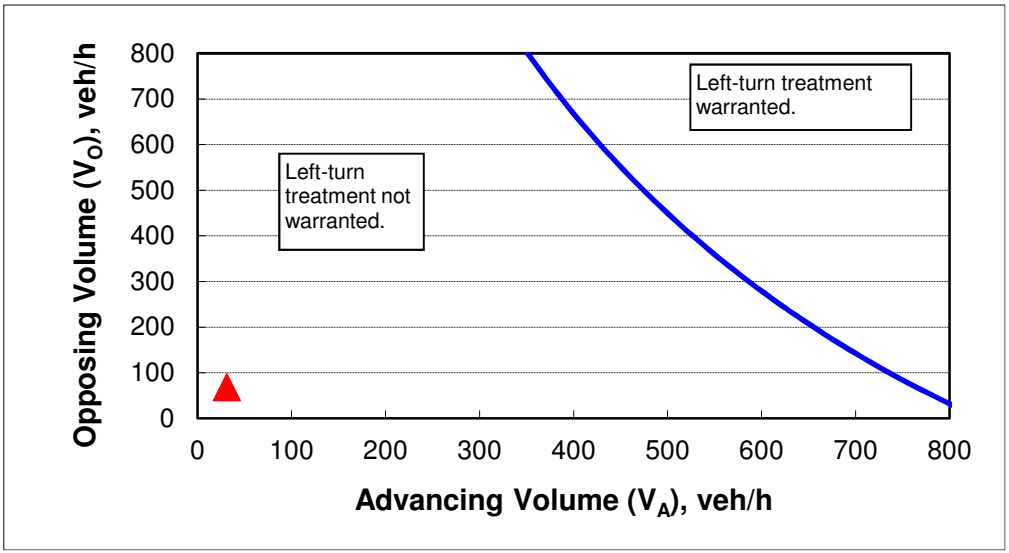
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	31
Opposing volume (V_O), veh/h:	68

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	764
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 16019 - 1270 Rosemont Road TIA
Intersection: Wild Rose Drive at Roxbury Drive
Date: 2/4/2016
Scenario: 2018 Background + Site Conditions - PM Peak Hour (SB LT)

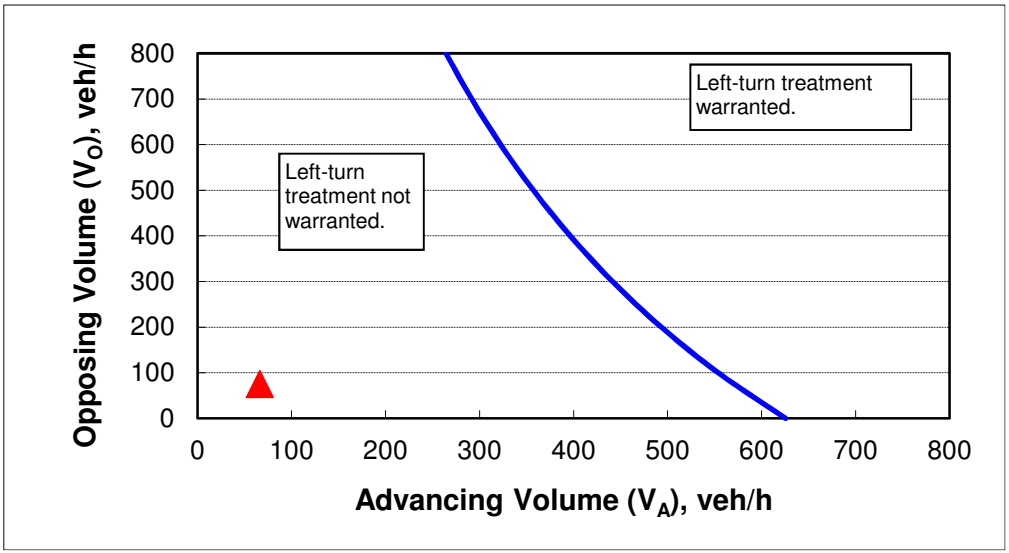
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	12%
Advancing volume (V_A), veh/h:	66
Opposing volume (V_O), veh/h:	75

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	571
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Traffic Signal Warrant Analysis

Project: 16019 - Rosemont Road TIA
Date: 2/4/2016
Scenario: 2018 Background plus Site Conditions - PM Peak Hour

Major Street:	Rosemont Road	Minor Street:	Site Access
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	529	PM Peak Hour Volumes:	10

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	5,290	8,850	
Minor Street*	100	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	5,290	13,300	
Minor Street*	100	1,350	**No**
Combination Warrant			
Major Street	5,290	10,640	
Minor Street*	100	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 16019 - Rosemont Road TIA
Date: 2/4/2016
Scenario: 2018 Background plus Site Conditions - PM Peak Hour

Major Street:	Rosemont Road	Minor Street:	Wild Rose Drive
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	542	PM Peak Hour Volumes:	59

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	5,420	8,850	
Minor Street*	590	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	5,420	13,300	
Minor Street*	590	1,350	**No**
Combination Warrant			
Major Street	5,420	10,640	
Minor Street*	590	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 16019 - Rosemont Road TIA
Date: 2/29/2016
Scenario: 2018 Background plus Site Conditions - PM Peak Hour

Major Street:	Salamo Road	Minor Street:	Parker Road
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	937	PM Peak Hour Volumes:	78

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	9,370	8,850	
Minor Street*	780	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	9,370	13,300	
Minor Street*	780	1,350	**No**
Combination Warrant			
Major Street	9,370	10,640	
Minor Street*	780	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 16019 - Rosemont Road TIA
Date: 2/4/2016
Scenario: 2018 Background plus Site Conditions - PM Peak Hour

Major Street:	Parker Road	Minor Street:	Site Access
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	224	PM Peak Hour Volumes:	5

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	2,240	8,850	
Minor Street*	50	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	2,240	13,300	
Minor Street*	50	1,350	**No**
Combination Warrant			
Major Street	2,240	10,640	
Minor Street*	50	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 16019 - Rosemont Road TIA
Date: 2/4/2016
Scenario: 2018 Background plus Site Conditions - PM Peak Hour

Major Street:	Wild Rose Drive	Minor Street:	Roxbury Drive
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	141	PM Peak Hour Volumes:	8

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	1,410	8,850	
Minor Street*	80	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	1,410	13,300	
Minor Street*	80	1,350	**No**
Combination Warrant			
Major Street	1,410	10,640	
Minor Street*	80	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Preliminary Storm Drainage Report for Tanner Ridge

1270 Rosemont Road,West Linn

Site Conditions:

This parcel is triangular tract of approximately 15.8 acres comprised of two tax lots (2 1E 26D, 00300 & 2 1E 26A, 1100) and is vacant land bounded two sides by Rosemont Road to the north and Parker Road to the south and west. The property slopes from north to south with a maximum slope of approximately 15%. The preliminary plan sites 50 single family residential lots and approximately 4 acres of open space. One open space area is proposed on a triangular portion to the west and another tract on the south containing a wetland and drainage course. A public road system is proposed to connect Rosemont Road with Parker Road and Roxbury Drive.

Hydrologic Soils Group:

The Oregon Soil Survey was used to determine the soil type and Hydrologic Soil Group.

Map unit symbol	map unit name	rating
23B	Cornelius silt loam	C
23D	Cornelius silt loam	C
78C	Saum silt loam	C

Additionally Delena silt loam is reported in the wetland, resource area. Group C soils have a moderate infiltration rate when thoroughly wet. The Oregon Soil Survey lists the infiltration rate at 6.5410 to 8.3369 microns/ second or approximately 1 inches/hr

Proposed Solution:

Roadside water quality swales are proposed along the new public streets where is gradient is 10% or less. On road grade greater than 10% a water quality pond is proposed on the south side of the property.

For this individual houses using The Oregon Rain Garden Guide, and the King County Hydrographic *program the proposed RAIN GARDEN and infiltration trench was sized to collect the impervious roof* water from the proposed residential house and a gravel trench for the driveway

Impervious area house estimate: 3000 Sq ft. = 0.07acres

CN - SCS Curve Number 98 roof

Storm Event- A ten year storm event was used to size the facility

ROOF AREA----------

Surface Water Management Division

HYDROGRAPH PROGRAMS

Version 4.21B

1 - INFO ON THIS PROGRAM

2 - SBUHYD

3 - MODIFIELD SBUHYD

4 - ROUTE

5 - ROUTE2

6 - ADDHYD

7 - BASEFLOW

8 - PLOTHYD

9 - DTATA

10 - REFAC

11 - RETURN TO DOS

ENTER OPTION:

2

SBUN/SCS METHOD FOR COMPUTING RUNOFF HYDROGRAPH

STORM OPTIONS;

1 - S.C.S. TYPE-1A

2 - 7-DAY DESING STORM

3 - STORM DATA FILE

SPECIFY STORM OPTION:

1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION

ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)

10,24,3.20

Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

XXXXXXXXXXXX 10-YEAR 24-HOUR STORM xxxx 3.20" TOTAL PRECIP. Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

0.0,86,0.07,98,5

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.1	.0	86	.1	98	5.0

PEAK-Q(CFS)	T-PEAK(HRS)	VOL(CU-FT)
.06	7.67	754

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:sun

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP

S

ENTER OPTION:

10

R/D FACILITY DESIGN ROUTINE

SPECIFY TYPE OF R/D FACILITY:

1 - POND	4 - INFILTRATION POND
2 - TANK	5 - INFILTRATION TANK
3 - VAULT	6 - GRAVEL TRENCH/BED

4

ENTER: *POND SIDE SLOPE (HORIZ. COMPONENT)*

3

ENTER: EFFECTIVE STORAGE DEPTH(ft) BEFORE OVERFLOW

.5

ENTER: VERT-PERN(min/in) PERM-SURFACE (0 = SIDES ONLY, 1 = SIDES AND BOTTOM)

60,1

ENTER [d:][path]filename[.ext]OF PRIMARY DESIGN INFLOW HYDROGRAPH:

C:sun

PRIMARY DESIGN INFLOW PEAK = .06 CFS

ENTER PRIMARY DESIGN RELEASE RATE(cfs):

0

ENTER NUMBER OF INFLOW HYDROGRAPHS TO BE TESTED FOR PERFORMANCE (5 MAXIMUM)

0

ENTER: NUMBER OF ORIFICES, RISER-HEAD(*ft), RISER-DIAMETER(in)

0,0.5,6

RISER OVERFLOW DEPTH FOR PRIMARY PEAK INFLOW = .05 ft

SPECIFY ITERATION DSIPLAY: Y - YES, N - NO

N

SPECIFY: R - REVIEW/REVISE INPUT, C - CONTINUE

C

INITIAL STORAGE VALUE FOR ITERATION PURPOSES: 888 CU-FT

PERFORMANCE:	INFLOW	TARGET-OUTFLOW	ACTUAL-OUTFLOW	PK-STAKE	STORAGE
DESIGN HYD:	.06	.00	.00	.67	224

Preliminary Design Solution:

Impervious Roof:

A circular rain garden approximately 17-feet in diameter and 8" deep with an additional 2" overflow depth would be sufficient for 3000 sq ft of impervious area. The final design will size the facility based on the actual impervious roof area.

Conclusion:
Infiltration of the new impervious surfaces is a satisfactory solution for this development.

Prepared By:

Bruce D. Goldson, PE

Theta, llc

March 25, 2016

CONCEPT PLAN

2015-129M

DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 60'			
DATE:	March, 2016			
FILE:	Rosemont Design Review5	DATE:	NO.	REVISION

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Tanner Ridge

SHEET: 3/3

Symbol		In AOI	of AOI
23B	Cornelius silt loam, 3 to 8 percent slopes	1.0	7.2%
23D	Cornelius silt loam, 15 to 30 percent slopes	5.6	42.1%
30C	Delena silt loam, 3 to 12 percent slopes	3.6	27.3%
78C	Saum silt loam, 8 to 15 percent slopes	3.1	23.3%
Totals for Area of Interest		**13.3**	**100.0%**

THE OREGON
Rain Garden Guide

A STEP-BY-STEP GUIDE TO
Landscaping FOR Clean Water AND Healthy Streams

Sea Grant
Oregon

NATURAL RESOURCE ASSESSMENT
Within
Water Resource Area

FOR

Tanner Ridge at Rosemont

Prepared for:
Icon Construction and Development
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068

Prepared by:
Schott and Associates

March 2016
Project #: 2409

INTRODUCTION

Site Location

Schott and Associates was contracted by Icon Construction & Development to conduct a wetland delineation and natural resource assessment on the subject property located east of Salamo Road and south of Rosemont Road in West Linn, Clackamas County, Oregon. The property consists of 2 separate tax lots (T2S R1E Sec.26A,D, TL#1100 and 3000).

Site Description

The somewhat triangular shaped subject property is situated between Parker Road to the south and Rosemont Road to the north. The property is bordered by residential housing to the east. To the west the property is bordered by a concrete pathway. Residential apartments and a water quality facility are located west of the path.

A drainage, Tanner Creek, flowed southeast across the property near the western property boundary starting approximately halfway down the property. The drainage entered the property through a large culvert at the western property boundary approximately halfway down the property. An open ditch was observed flowing southeast on the other side of the path and a water quality facility was located directly across from the culvert as well. Water was likely flowing from both sources into the culvert. The culvert was overflowing, causing high volumes of water to flow across the south half of the property near the western property line and on both sides of the creek. The site is fairly steep south, southwest sloping. The southwest portion of the property where the creek is located is gently southwest sloping.

The northwest portion of the property comes to a point at the northwest corner. This area, as well as the northern border, is mainly wooded, containing an overstory of Douglas fir (*Pseudotsuga menziesii*) and red alder (*Alnus rubra*). Within the understory Himalayan blackberry (*Rubus armeniacus*) was dominant but had been cut back for easier access. Also observed was English ivy (*Hedera helix*) and sword fern (*Polystichum munitum*). Along the drainage, pond and western property boundary red alder, common filbert (*Corylus cornuta*) and willow (*Salix sp*) were observed in the overstory. Himalayan blackberry and ivy were dominant in the understory with some reed canary grass (*Phalaris arundinacea*), lady fern (*Athyrium filix-femina*) and sword fern. A majority of the eastern portion of the property was an open field dominated by grasses such as tall fescue (*Schedonorus arundinaceus*) and colonial bentgrass (*Agrostis capillaries*). A thick band of Himalayan blackberry bordered the field to the west, north and east.

Project Objectives

The applicant proposes a 50 lot residential subdivision consistent with existing subdivisions to the north and east. Main access will be from Meadowlark Drive through the middle of the development connecting to Rosemont Road at the north end of the development and Parker Road at the end. The other road entry will be from within the existing development to the east. Roadways will not be within the WRA. At the very

back of the some of the proposed lots there would be minimal impacts to the WRA in establishing lots. In order to complete the construction of the development and roadways the applicant proposes a reduced WRA to 50' wide in an otherwise degraded portion of the 65' wide WRA to maximize development potential of the property while maintaining the highest quality onsite resources.

As shown on the WRA Map, the site contains protected water resources. This report will outline the extent of these features and provide verification of these resources as well as provide water resource map verification and a delineation report of site findings.

METHODS

A Wetland delineation and natural resource assessment were conducted on January 19, 2016. As per 32.020 the undisturbed waterway, wetlands and riparian corridor boundary were determined and documented in this report and an attached delineation report.

SENSITIVE AREA CONDITIONS

Waterway

Tanner Creek flows south, southeast through the property and adjacent to onsite wetlands. The creek enters the property midway down through a culvert at the western property boundary, flows into and out of a pond and exits the site through a culvert in the southwest corner of the property. The creek averaged approximately 10 feet in width.

A pond vegetated at the edges was located south of the culvert where the creek entered the property. The creek appeared to flow into and out of the pond. No defined channel was observed adjacent to the pond as water levels were high.

Wetland

Based on soil, vegetation and hydrology data taken in the field eight fringe PEM wetlands, totaling 10,004sf were delineated. Tanner Creek flowed through the wetland area. All of the wetlands connected with the creek.

The first wetland, Wetland A, of 244sf was north and upslope from an existing pond onsite. The PEM wetland was adjacent and east of the creek. The wetland was mostly bare, but the minimal vegetation observed was water parsley (*Oenanthe sarmentosa*- OBL) (SP J4). Hydrology was ½" of surface water. Soils were 10YR 3/1 and organic within the first 5" and 10YR 3/1 to 21". Soils were very dark and saturated, so redox was hard to detect. Other criteria were met and BPJ was used to determine this area as a wetland.

The second PEM wetland, Wetland B, of 945sf was located just south of the pond and bordered on the east and west side by the drainage. Vegetation consisted of red alder, rose (*Rosa sp*) (SP J6), lady fern (J6, C2) and reed canary grass (C2). Some Himalayan blackberry was also observed but discounted as problematic. Soils met the Redox Dark Surface (F6) hydric soil indicator and surface saturation was observed (SP J6, C2).

Wetland E of 1,442sf, further south of the pond, adjacent to and on the slope east of the drainage was dominated by reed canary grass, soils met the Depleted Matrix (F3) hydric indicator and saturation was to the surface (J8).

Wetland F was located at the southern extent of the property adjacent to the west side of the drainage. The majority of the wetland was dominated by reed canary grass with some willows at the northern end. Soils met the Redox Dark Surface (F6) hydric indicator and saturation was at 11" with water in the hole at 12". The southernmost wetland west of the channel was bordered by an asphalt pathway with a small fill slope. This slope clearly defined the majority of the wetland boundary.

The remaining wetlands (C-81sf, D-64sf, G-515sf and H-1,450sf) totaling 2,110 sf were fringe wetlands that clearly met criteria and sample plots were not taken. Wetland C and D were very small and Wetlands G and H were just separated by a narrow channel and bordered by dense Himalayan blackberry to the east.

The LWI, as well as the WRA map, showed a drainage entering the property from the north near the eastern property boundary flowing southwest thru the property. Onsite observations showed two converging slopes forming a slight, narrow depression fully vegetated with grasses, rather than a drainage channel. Two sample plots were taken at the low end of the narrow depression prior to the band of Himalayan blackberry and Tanner Creek. Both sample plots were dominated by tall fescue and colonial bentgrass. Sample plot J10 was taken further upslope. Soils read as 7.5YR 3/3 with saturation at 6" from the top. Sample plot C4 was taken further down slope. Soils were a 10YR 3/2 to 11" and 10YR 4/4 with 20% 10YR 4/2 redox 11-21". Saturation was at the surface. The slight depression was clearly not a drainage channel, nor a wetland as soils criterion was not met.

WRA

The remaining WRA east of the creek and wetlands consisted of a thick band of invasive Himalayan blackberry transitioning to non-native grasses such as tall fescue and colonial bentgrass. To the north of the creek within the 65'WRA vegetation mainly consisted of invasive ivy and Himalayan blackberry. To the west of the creek and wetlands red alder, filbert and willow were observed in the overstory. Himalayan blackberry and ivy were dominant in the understory as well as lady fern, sword fern and reed canary grass with a small amount of sedge.

WRA REQUIREMENTS

As per Chapter 32/Table 32-2 Required Width of WRA; the required width on each side of the water resource is 65' from the OHW or delineated edge of a wetland if slopes adjacent to the protected water source are 0-25%. The slopes do not exceed 25%, therefore the WRA is 65'. Within the required 65' wide WRA boundary at the very eastern end, farthest away from the waterway and wetland edge, lot boundaries will be the only impact. Impact area is 3,562 sqft. As the impact area is just on the very edges of the lots within all non-native and invasive vegetation, performing no functions or protection of functions of the water resource, and the WRA is almost entirely degraded, as well, on the east side of the water resource, it is proposed that the width be reduced to 50 feet. With a 50' wide WRA, there will be no impacts caused by the development. Per 32.070 Alternate Review Process *if there is reason to believe that the width of the WRA prescribed under the standard process (CDC 32.060(D) is larger than necessary to protect the functions of the water resource at a particular site* a reduction in width can be requested if per 32.080(B) it can be shown that the *WRA is already significantly degraded (e.g., native forest and ground cover have been removed or the site dominated by invasive plants, debris or development) and the approval authority may allow a reduced WRA in exchange for mitigation*. In the case of the WRA on the Rosemont site Himalayan blackberry and ivy are non-native, invasive and the ground cover is non-native field grasses.

Undisturbed WRA Conditions

As per Section 32.050 (F8) plant communities within the undisturbed WRA were identified and characterized.

The majority of the WRA for the wetlands and waterway were composed of non-native grasses and Himalayan blackberry. The field to the east of the waterway consisted mainly of non-native grasses including tall fescue and bentgrass. Between the waterway and non-native grasses was a thick band of Himalayan blackberry. The tree canopy or native species was minimal and mainly bordered the edges of the waterway. The condition of the WRA was mainly degraded.

Table 1. Eastern Community within WRA

Scientific Name	Common Name	Layer	% Cover
Alopecurus pratensis	Meadow foxtail	Grass	5
Holcus lanatus	Velvet grass	Grass	5
Schedonorus arundinaceus	Tall fescue	Grass	30
Poa pratensis	Kentucky blue grass	Grass	5
Agrostis capillaris	Colonial bentfrass	Grass	25
Rubus armeniacus	Himalayan blackberry	Shrub	40
% cover by natives			0
% tree canopy			0
% invasive/noxious			40
Condition			Degraded

The WRA in the north portion of the property transitioned from the coniferous forest community to the north. Himalayan blackberry and ivy grew thickly in areas and with a few scattered sapling trees. This WRA was in degraded condition.

Table 2. Northern Community within WRA

Scientific Name	Common Name	Layer	% Cover
Salix sp (sapling)	Willow	Shrub	5
Carex sp	Sedge	Forb	5
Rubus armeniacus	Himalayan blackberry	Shrub	30
Hedera helix	Ivy	Vine	40
% cover by natives			10
% tree canopy			0
% invasive/noxious			70
Condition			Degraded

The western edge of the site consisted of a red alder overstory mainly at the northern end with reed canary grass and Himalayan blackberry as the dominant in the understory. Canopy cover was low to moderate. Native species cover was moderate and invasive species cover was moderate to high. The buffer in this area was in marginal to degraded condition.

Table 3. Western Community within WRA

Scientific Name	Common Name	Layer	% Cover
Phalaris arundinacea	Reed canary grass	forb	45
Alnus rubra	Red alder	Tree	20
Salix sp	Willow	Sapling/shrub	10
Rubus armeniacus	Himalayan blackberry	Shrub	20
Polystichum munitum	Sword fern	Forb	5
% cover by natives			35
% tree canopy			20
% invasive/noxious			65
Condition			Marginal

IMPACTS

Impacts to Wetlands/Waters

No impacts to Wetlands or waters are proposed.

Impacts to the remaining WRA

Within the required 65' wide WRA boundary at the very eastern edge, farthest away from the waterway and wetland edge, lot boundaries will be the only impact. Impact area is 3,562 sqft. As the impact area is just on the very edges of the lots within all non-native

and invasive vegetation and the WRA is almost entirely degraded, as well, on the east side of the water resource, it is proposed that the width be reduced to 50 feet. With a 50' wide WRA, there will be no impacts caused by the development. Per 32.070 Alternate Review Process *if there is reason to believe that the width of the WRA prescribed under the standard process (CDC 32.060(D) is larger than necessary to protect the functions of the water resource at a particular site* a reduction in width can be requested if per 32.080(B) it can be shown that the *WRA is already significantly degraded (e.g., native forest and ground cover have been removed or the site dominated by invasive plants, debris or development) and the approval authority may allow a reduced WRA in exchange for mitigation*. In the case of the WRA on the Rosemont site Himalayan blackberry and ivy are non-native invasive and the ground cover is non-native field grasses.

MITIGATION AND ENHANCEMENT

A 15' reduction in the WRA width is being proposed, creating a 50' wide WRA proection. As described for reduction in WRA width, accompanied with Mitigation, the applicant proposes mitigating for the WRA width reduction amount of 15,250sf through enhancement at a 1:1 ratio in a band across the remaining WRA at the eastern WRA boundary (Table 1). Also proposed is the removal of the remaining Himalayan blackberry and ivy within the WRA on the east and north side of the water resource followed by planting with native plant material greatly enhancing otherwise low quality functions than the existing WRA now has.

The goal of the mitigation is protecting the ecological benefit and water quality benefit to the higher quality sensitive areas while maximizing developable area.
WRA mitigation will include removal and control of invasive species, especially Himalayan blackberry and ivy, as well as non-native grasses. A 15' wide band of WRA will be planted with native trees, shrubs and groundcover consistent with CDC 32.100, meeting or exceeding the standards of CDC 32.090(C) as described in the Mitigation Plan (Table 4) to extend the total area of native forested/scrub-shrub community and provide a diverse community adjacent to the onsite water resource.

Additionally, removal of invasive species such as Himalayan blackberry and ivy, beyond the 15' band of proposed enhancement, to the water resource and then replanting with native plant material will further preserve and significantly enhance the essential functions of the remaining WRA by increasing area and diversity of native vegetation adjacent to the sensitive area (Table 5). Tree and shrub species will provide shade, large woody debris, habitat and food sources. In addition it will increase filtration and remove non-native vegetation. Species will be based on the existing native Portland plant list and will include upland species as referenced in Table 4 such as Douglas fir, red alder, big leaf maple, Oregon grape, snowberry, Indian plum and sword fern.

Planting will be done per 32.100 RE-Vegetation Plan Requirements.Trees and shrubs shall be planted in accordance to 32.100 (3a,b). Plant diversity shall be in accordance with 32.100 (4)

Per 32.100 (6) A minimum survival rate of 80% of the trees and shrubs planted is expected by the third anniversary of the date that the mitigation planting is completed. Plants that die must be replaced in kind (32.100(7).

As per City of West Linn WRA protection requirements, 80% success is required for the replanted areas. The mitigation site will be monitored and maintained for three years. If, after each year monitoring period, 80% survival has not been met, dead plants will be replaced up to the 100% success required.

TABLE 4. WRA ENHANCEMENT PLANTING PLAN (15,250)

	Plant Type	Water Require-ments	Light Require-ments	Min. Size	Min. Height	Spacing	Qty
Douglas fir (*Pseudotsuga menziesii*)	Tree	Dry	Sun	2 gal	3’	Single	60
Big leaf maple (*Acer macrophyllum*)	Tree	Dry	Sun	2 gal	3’	Single	40
Red alder (*Alnus Rubra*)	Tree	Moist	Sun	2 gal	3’		55
Red flowering currant (*Ribes sanguineum*)	Shrub	Dry	Sun	1 gal.	1.5’	Cluster	100
Tall Oregon grape (*Mahonia aquifolium*)	Shrub	Dry	Sun	1 gal.	12”	Single	150
Indian Plum (*Oemleria cerasiformis*)	Shrub	Moist	Shade	2 gal.	2’	Cluster	40
Cascade Oregon grape (*Mahonia nervosa*)	Shrub	Moist	Shade	1 gal.	4”	Cluster	125
Snowberry (*Symphoricarpos albus*)	Shrub	Dry	Part	1 gal.	1.5’	Cluster	150
Serviceberry (*Amelanchier alnifolia*)	Shrub	Dry	Part	1 gal.	1.5’	Single	100
Sword fern (*Polystichum munitum*)	Forb	Moist	Shade	2 gal.	n/a	Cluster	100
Native California brome (*Bromus carinatus*)	Grass	Dry	Part	Seed	n/a	10lbs. pls	
Blue Wildrye (*Elymus glaucus*)	Grass	Dry	Part	Seed	n/a	10lbs. pls	

Table 5. Ecological Functions per Table 32-4		
Ecological Functions	**WRA existing conditions**	**WRA enhanced conditions**
Stream flow moderation and/or water storage	Wetland Storage functions moderate, creek water strongly flows into wetland as well as sheet flow across portions of the WRA, some fallen trees slow flow.	Storage functions will be higher with vegetation density increase in WRA to further slow flow for better storage capacity.
Sediment or pollution control	Vegetation is within 100' of all wetland /waterways. To the east of wetland and waterways after 50' vegetation is grasses. Only forested canopy mainly to the north of WRA.	Increased vegetation and tree canopy within first 50' of WRA from point of wetland or waterway will increase functions by slowing water flow and creating more tree canopy.
Bank stabilization	Some large trees along stream bank but there is minimal bank	Increased native vegetation will help bank stabilization although bank is minimal.
Large wood recruitment for a fish bearing section of stream	Stream is likely not fish bearing. There is a tree canopy within 50 to 150' from the north and northwest	Additional trees to the east will increase tree canopy and higher quality functions.
Organic material sources	Same as one above	Same as one above one
Shade (water temperature moderation) and microclimate	Same as one above	Same as one above

Gmail

Rick Givens <rickgivens@gmail.com>

FW: Message from KMBT_C454

Perkins, Michael <Mperkins@westlinnoregon.gov> Mon, Mar 28, 2016 at 4:08 PM
To: "rickgivens@gmail.com" <rickgivens@gmail.com>, Darren Gusdorf <darren@iconconstruction.net>

Significant trees circled in red

From: km_C454_parks@westlinnoregon.gov [mailto:km_C454_parks@westlinnoregon.gov]
Sent: Monday, March 28, 2016 3:59 PM
To: Perkins, Michael <Mperkins@westlinnoregon.gov>
Subject: Message from KMBT_C454

Michael Perkins

City Arborist/Park Development Coordinator
22500 Salamo Rd.
West Linn, Oregon 97068
Mperkins@westlinnoregon.gov
westlinnoregon.gov
Phone (503) 723-2554

City of West Linn

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Rosemont Tree Table Ryan

2/16/2016

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
9	n/a	9	9	DEC	n/a	gone	
159	Port-Orford cedar	12	12	CEDAR	0	terminal decline; diseased hedgerow	
160	Port-Orford cedar	8	8	CEDAR	0	terminal decline; diseased hedgerow	
161	Port-Orford cedar	12	12	CEDAR	0	terminal decline; diseased hedgerow	
162	Port-Orford cedar	CLUSTER	0	CEDAR	0	terminal decline; diseased hedgerow	
163	Port-Orford cedar	CLUSTER	0	CEDAR	0	terminal decline; diseased hedgerow	
164	cherry sp.	CLUSTER	0	DEC	0	stump sprouts, dead main stem. inaccessible blackberry	
165	Scouler willow	CLUSTER	0	DEC	0	undersize	w
166	filbert	CLUSTER	0	DEC	1	undersize	w
167	Scouler willow	CLUSTER	0	DEC	1	undersize	w
168	cottonwood	CLUSTER	0	DEC	1	undersize	w
169	cottonwood	9	9	DEC	2	undersize	w
170	cottonwood	26	26	DEC	2		w
171	cottonwood	16	16	DEC	2		w
172	cottonwood	6	6	DEC	n/a	undersize	w
173	Scouler willow	12	12	DEC	0	broken	w
174	Scouler willow	12	12	DEC	0	broken	w
175	Scouler willow	12	12	DEC	0	broken	w
176	Scouler willow	12	12	DEC	0	broken	w
177	Scouler willow	6	6	DEC	n/a	undersize	w
178	Scouler willow	11	11	DEC	n/a	undersize	w
179	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
180	Scouler willow	6	6	DEC	n/a	undersize	w
181	Scouler willow	7	7	DEC	n/a	undersize	w
185	Scouler willow	CLUSTER	0	DEC	n/a	undersize	
186	cottonwood	31	31	DEC	2		w

Field work done 2/2016 by Ryan Neumann, PN-5539A

0/dead 1/decline 2/average 3/excellent

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
187	cottonwood	10	10	DEC	2	undersize	w
188	cottonwood	11	11	DEC	2	undersize	w
189	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
190	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
191	Scouler willow	7	7	DEC	n/a	undersize	w
192	Scouler willow	12	12	DEC	1		w
193	Scouler willow	13	13	DEC	0	broken	w
194	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
195	Scouler willow	9	9	DEC	n/a	undersize	w
196	Scouler willow	9	9	DEC	n/a	undersize	w
197	English holly	6	6	HOLLY	n/a	undersize	w
198	Scouler willow	6	6	DEC	n/a	undersize	w
199	English holly	7	7	HOLLY	n/a	undersize	w
201	Scouler willow	12	12	DEC	1		w
202	Scouler willow	13	13	DEC	1		w
203	Scouler willow	6	6	DEC	n/a	undersize	w
204	filbert	CLUSTER	0	DEC	n/a	undersize	
205	hawthorn sp	CLUSTER	0	DEC	n/a	undersize	
206	Scouler willow	6	6	DEC	n/a	undersize	
207	Scouler willow	9	9	DEC	n/a	undersize	w
208	cottonwood	14	14	DEC	2		w
209	cottonwood	6	6	DEC	n/a	undersize	w
210	Scouler willow	8	8	DEC	n/a	undersize	w
211	Scouler willow	6	6	DEC	n/a	undersize	w
212	Scouler willow	7	7	DEC	n/a	undersize	w
213	Scouler willow	8	8	DEC	n/a	undersize	w

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
214	pear	21	21	DEC	1		
215	cottonwood	7	7	DEC	n/a	undersize	
216	Garry oak	7	7	DEC	2		
217	cottonwood	9	9	DEC	n/a	undersize	w
218	cottonwood	10	10	DEC	n/a	undersize	w
219	cottonwood	10	10	DEC	n/a	undersize	w
220	cottonwood	10	10	DEC	n/a	undersize	w
221	cottonwood	9	9	DEC	n/a	undersize	w
222	Scouler willow	6	6	DEC	n/a	undersize	w
223	Scouler willow	7	7	DEC	n/a	undersize	w
224	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
225	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
226	cottonwood	22	22	DEC	2		w
227	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
228	cottonwood	24,18,18,11	47	DEC	2	multiple stems from base	w
229	Douglas fir	32	32	FIR	2	T-947 is hung up in crown	O
230	Douglas fir	24	24	FIR	2		O
231	Garry oak	9	9	DEC	1	broken tops and branches	O
232	deciduous hardwood	9,8,6	16	DEC	1	broken	O
233	Douglas fir	23	23	FIR	2	suppressed	O
234	Douglas fir	26	26	FIR	2	suppressed	O
235	Douglas fir	40	40	FIR	2		O
236	hawthorn sp	7	7	DEC	n/a	undersize	
240	big leaf maple	6	6	DEC	n/a	undersize	
241	big leaf maple	10	10	DEC	n/a	undersize	
242	elderberry	CLUSTER	0	DEC	n/a	undersize	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
361	Scouler willow	6	6	DEC	n/a	undersize	w
362	Scouler willow	6	6	DEC	n/a	undersize	w
363	Scouler willow	36	36	DEC	2		w
401	English holly	8	8	HOLLY	1	undersize	
402	western red cedar	20	20	CEDAR	0	broken; ivy	
403	big leaf maple	15	15	DEC	1	broken tops; ivy	
405	Douglas fir	46	46	FIR	2	ivy	
406	English holly	CLUSTER	0	HOLLY	1	undersize	
407	big leaf maple	20	20	DEC	2	listed maple next to it	
408	English holly	7	7	HOLLY	1	undersize	
409	Douglas fir	27	27	FIR	2	ivy	
410	big leaf maple	26	26	DEC	1	past failures; hollow	
411	Douglas fir	18	18	FIR	2	ivy	
412	Douglas fir	33	33	FIR	1	co-dominate tops; ivy	
413	Douglas fir	36	36	FIR	1	co-dominate tops; ivy	
414	big leaf maple	20	20	DEC	1	excessive lean	
415	big leaf maple	24	24	DEC	2	ivy	
416	big leaf maple	21	21	DEC	1	past failures; trunk decay	
417	Douglas fir	26	26	FIR	2	ivy; suppressed	
418	Douglas fir	27	27	FIR	2	ivy	
419	big leaf maple	25	25	DEC	0	main stem broken @6'	
420	English holly	CLUSTER	0	HOLLY	1	undersize	
421	big leaf maple	21	21	DEC	2	ivy	
422	Douglas fir	28	28	FIR	2	ivy	
423	big leaf maple	11	11	DEC	1	undersize	
424	big leaf maple	25	25	FIR	2	ivy	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
425	big leaf maple	16	16	DEC	2	T-425 and T-426 are one tree	
426	big leaf maple	19	19	DEC	2	T-425 and T-426 are one tree	
427	Douglas fir	36	36	FIR	2	ivy	
428	Douglas fir	18	18	FIR	1	ivy; suppressed	
429	Douglas fir	17	17	FIR	1	ivy; suppressed	
430	Douglas fir	28	28	FIR	2		
431	Douglas fir	36	36	FIR	2	ivy	
432	big leaf maple	16	16	DEC	1	ivy; suppressed	
433	Scouler willow	CLUSTER	0	DEC	2	undersize	
434	Scouler willow	6	6	DEC	0	undersize	
435	Scouler willow	6	6	DEC		undersize	
436	Scouler willow	12	12	DEC	2		
437	Scouler willow	6	6	DEC		undersize	
438	Douglas fir	39	39	FIR	2	ivy	w
439	Scouler willow	11	11	DEC	1	undersize	
440	hawthorn sp	20	20	DEC	1		
441	English holly	6	6	HOLLY		undersize	
442	Scouler willow	7	7	DEC	n/a	undersize	
443	Douglas fir	21	21	FIR	2	ivy	
444	Douglas fir	30	30	FIR	2	ivy	
445	Douglas fir	15	15	FIR	0	main stem broken @ 20'	
446	big leaf maple	15	15	DEC	2	T-446 and 447 are one tree; ivy	
447	big leaf maple	7	7	DEC	2		
448	red alder	14,6,4	19	DEC	1	re-sprouted from fallen tree	
449	big leaf maple	46	46	DEC	2	ivy	w
450	big leaf maple	15	15	DEC	1	trunk swoop	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
451	n/a	CLUSTER	0	DEC	0	on ground	
452	n/a	CLUSTER	0	DEC	0	on ground	
453	big leaf maple	7	7	DEC		undersize	
454	big leaf maple	25	25	DEC	2	ivy	
455	big leaf maple	20	20	DEC	2	ivy	
456	big leaf maple	7	7	DEC		undersize	
457	Douglas fir	34	34	FIR	2	ivy	
458	Douglas fir	37	37	FIR	2	ivy	
459	big leaf maple	16	16	DEC	2	ivy	
460	big leaf maple	15	15	DEC	2	ivy	
461	big leaf maple	32	32	DEC	1	T-461,462, and463 are one tree; one 19" dead stem	
462	n/a	n/a	0	DEC	n/a		
463	n/a	n/a	0	DEC	n/a		
464	hawthorn sp	14	14	DEC	2		w
465	big leaf maple	20,16,9,9	37	DEC	0	basal decay; main stem has failed	
466	hawthorn sp	6	6	DEC	1	undersize	
467	big leaf maple	12	12	DEC	2		
468	English holly	6	6	HOLLY	n/a	undersize	
469	big leaf maple	17	17	DEC	1	ivy	
470	Douglas fir	35	35	FIR	2	ivy	
471	big leaf maple	17	17	DEC	2	ivy	
472	big leaf maple	9	9	DEC	n/a	undersize	
473	Douglas fir	26	26	FIR	2		
474	big leaf maple	12	12	DEC	2		
475	big leaf maple	9	9	DEC	n/a	undersize	
476	n/a	28	28	FIR	n/a	not there	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
477	Douglas fir	32	32	FIR	2	ivy	
478	Douglas fir	20	20	FIR	0	broken; dead; Schweinitzii root rot	
479	Douglas fir	27	27	FIR	2	ivy	
480	Douglas fir	20	20	FIR	2		
481	Douglas fir	21	21	FIR	2		
482	big leaf maple	8	8	DEC	n/a	undersize	
483	Douglas fir	25	25	FIR	2	ivy	
484	Douglas fir	38	38	FIR	2	ivy	
485	big leaf maple	44,32	60	DEC	1	basal decay; hollow	
486	big leaf maple	11,8	15	DEC	1	T-486 and 487 are one tree; excessive lean	
487	n/a	n/a	0	DEC			
488	big leaf maple	26	26	DEC	1	basal decay	
489	dead	10	10	DEC	0	undersize	
490	dead	11	11	DEC	0	undersize	
491	big leaf maple	8	8	DEC	0	undersize	
492	big leaf maple	12	12	DEC	1	excessive lean	
493	Douglas fir	25	25	FIR	2	ivy	
494	Douglas fir	20	20	FIR	2	ivy	
495	Douglas fir	24	24	FIR	2	ivy	
496	big leaf maple	15	15	DEC	0	broken	
497	big leaf maple	13	13	DEC	2	ivy	
498	Douglas fir	29	29	FIR	2	ivy	
499	Douglas fir	26	26	FIR	2	ivy	
500	Douglas fir	32	32	FIR	2	ivy	
666	Port-Orford cedar	10	10	CEDAR	0	terminal decline; diseased hedgerow	
667	big leaf maple	20	20	DEC	1	broken top; ivy	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
668	spruce sp.	15	15	FIR	2		
669	spruce sp.	17	17	CON	2	ivy	
670	hawthorn sp	15	15	DEC	1	broken; excessive lean	
671	apple	12	12	DEC	1	decline	
672	cherry sp.	11	11	CHERRY	2	undersize	
673	apple	16	16	DEC	1	basal decay	
674	filbert	CLUSTER	0	DEC	1	undersize	
675	big leaf maple	32	32	DEC	1	broken top	
676	western red cedar	28	28	CEDAR	1	broken top; ivy	
677	big leaf maple	13	13	DEC	1	ivy	
678	dead	20-dead	20	DEC	0	snag	
679	spruce sp.	17	17	CON	0	broken	
680	elm sp.	36	36	DEC	1	ivy	
681	spruce sp.	13	13	CON	2		
682	elm sp.	9	9	DEC	1	undersize	
683	big leaf maple	7	7	DEC	1	undersize	
684	cherry sp.	10	10	DEC	2	undersize	
685	cherry sp.	6	6	DEC	2	undersize	
686	elm sp.	10	10	DEC	2	undersize	
687	cherry sp.	6	6	DEC	2	undersize	
688	elm sp.	21	21	DEC	2	ivy	
689	cherry sp.	7	7	DEC	1	undersize	
690	cherry sp.	7	7	DEC	2	undersize	
691	cherry sp.	6	6	DEC	2	undersize	
692	elm sp.	17	17	DEC	1	ivy	
693	elm sp.	10	10	DEC	2	undersize	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
694	cherry sp.	8	8	DEC	2	undersize	
695	cherry sp.	6	6	DEC	2	undersize	
696	cherry sp.	7	7	DEC	2	undersize	
697	English holly	12	12	HOLLY	1	hedgerow	
698	English holly	12	12	HOLLY	1	hedgerow	
699	English holly	CLUSTER	0	HOLLY	1	undersize	
700	English holly	13	13	HOLLY	1	hedgerow	
701	hawthorn sp	6	6	DEC	n/a	undersize	
702	cherry sp.	7	7	DEC	2	undersize	
703	hawthorn sp	8	8	DEC	1	undersize	
704	apple	14	14	DEC	0	basal decay; past failures	
705	English walnut	17	17	DEC	1		
706	English laurel	CLUSTER	0	LAUREL	n/a	shrub species; undersize	
707	hawthorn sp	CLUSTER	0	DEC	2	undersize	
708	English walnut	CLUSTER	0	DEC	1	decline	
709	cherry sp.	6	6	DEC	2	undersize	
710	hawthorn sp	CLUSTER	0	DEC	2	undersize	
711	English laurel	CLUSTER	0	LAUREL	0	undersize	
712	English walnut	13	13	DEC	1		
713	hawthorn sp	6x2	0	DEC	1	undersize	o
714	Douglas fir	16	16	FIR	1	topped for power lines	o
715	apple	17	17	DEC	1	trunk and stem decay; past failures	o
716	big leaf maple	36	36	DEC	2	pruned away from power lines	o
717	English walnut	16	16	DEC	2		o
718	dead	14-dead	14	CEDAR	0	dead	o
719	hawthorn sp	7	7	DEC	1	undersize	o

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
720	hawthorn sp	7	7	DEC	2	undersize	
721	cherry sp.	7	7	DEC	2	undersize	
722	dead	10	10	DEC	0	dead	
723	apple	18	18	DEC	1	trunk and stem decay; past failures	
725	english laurel	CLUSTER	0	LAUREL	0	shrub species; undersize	
726	hawthorn sp	15	15	DEC	2		
727	hawthorn sp	CLUSTER	0	DEC	2		
728	apple	14-dead	14	DEC	1	trunk and stem decay; past failures; basal decay	
729	English walnut	CLUSTER	0	DEC	2	undersize	
730	apple	18	18	DEC	1	trunk and stem decay; past failures	
731	English walnut	15	15	DEC	2		
732	hawthorn sp	CLUSTER	0	DEC	1	undersize	
733	English walnut	14	14	DEC	2		
734	English walnut	15	15	DEC	1		
724	big leaf maple	6	6	DEC	1	undersize	
735	English walnut	15	15	DEC	2		
736	English walnut	15	15	DEC	1		
737	English walnut	17	17	DEC	2		
738	Lombardy poplar	22	22	DEC	2		
739	cherry sp.	CLUSTER	0	DEC	1	stump sprouts; undersize	
740	hawthorn sp	CLUSTER	0	DEC	1	undersize	
742	English walnut	16	16	DEC	2		
743	apple	17	17	DEC	1	trunk and stem decay	
744	hawthorn sp	13	13	DEC	2		
745	apple	16	16	DEC	1	trunk and stem decay	
746	English walnut	17	17	DEC	0	severe trunk decay; basal decay	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
747	apple	12	12	DEC	0	trunk and stem decay; basal decay	
748	apple	17	17	DEC	0	trunk and stem decay; cavity	
749	apple	10	10	DEC	0	trunk and stem decay; basal decay; past failure	
750	apple	24	24	DEC	0	trunk and stem decay; past failure	
751	apple	12	12	DEC	0	trunk and stem decay; cavities	
752	English walnut	14	14	DEC	1	trunk and stem decay; basal decay; cavity in main stem	
753	English walnut	14	14	DEC	2	broken scaffold branches	
754	English walnut	17	17	DEC	2		
755	English walnut	22	22	DEC	1	stem decay	
756	English walnut	19	19	DEC	1	past failure	
757	hawthorn sp	7	7	DEC	1	undersize	
758	English walnut	19	19	DEC	0	terminal decline; trunk decay; dead tops	
759	English walnut	17	17	DEC	1		
760	English walnut	CLUSTER	0	DEC	0	broken; on ground	
761	English walnut	24	24	DEC	1	trunk and stem decay	
762	Norway maple	8	8	DEC	2	undersize	
763	English walnut	16	16	DEC	2		
764	English walnut	21	21	DEC	2		
765	hawthorn sp	7	7	DEC	2	undersize	
766	English walnut	16	16	DEC	0	past failure	
767	hawthorn sp	11	11	DEC	2	undersize	
768	cherry sp.	6	6	DEC	2	undersize	
769	English walnut	22	22	DEC	2		
770	deciduous hardwood	6	6	DEC	n/a	undersize	
771	elm sp.	15X2	0	DEC	2		
772	yew sp.	13	13	DEC	2		

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
773	elm sp.	17	17	DEC	2		
774	cherry sp.	8	8	DEC	1	undersize	
775	elm sp.	22	22	DEC	2		
776	elm sp.	8	8	DEC	2	undersize	
777	elm sp.	8	8	DEC	2	undersize	
778	elm sp.	8	8	DEC	2	undersize	
779	elm sp.	9	9	DEC	2	undersize	
780	elm sp.	6	6	DEC	2	undersize	
781	elm sp.	6	6	DEC	2	undersize	
782	elm sp.	9	9	DEC	2	undersize	
783	hawthorn sp	8	8	DEC	2	undersize	
784	hawthorn sp	10,9	14	DEC	1	undersize	
785	hawthorn sp	CLUSTER	0	DEC	2	undersize	
786	cherry sp.	9	9	DEC	2	undersize	
787	cherry sp.	8	8	DEC	2	undersize	
788	hawthorn sp	6	6	DEC	2	undersize	
789	apple	10	10	DEC	1	undersize	
790	yew sp.	38	38	CON	2		
791	vine maple	10	10	DEC	2	undersize	
792	apple	8	8	DEC	1	undersize	
793	English walnut	14	14	DEC	1		
794	Douglas fir	15	15	FIR	2	ivy	
795	Douglas fir	11	11	FIR	2		
796	cherry sp.	11	11	DEC	2	undersize	
797	elm sp.	19	19	DEC	2	ivy	
798	Port-Orford cedar	9	9	CEDAR	0	undersize	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
799	Port-Orford cedar	6x2	0	CEDAR	0	undersize	
801	big leaf maple	10,10,8	19	DEC	1	basal decay; excessive lean	
802	big leaf maple	20,18,12	35	DEC	1	basal decay; excessive lean	
803	hawthorn sp	CLUSTER	0	DEC	n/a	undersize	
804	Douglas fir	37	37	FIR	2	ivy	
805	dead	20-dead	20	DEC	0	ivy	
806	English holly	CLUSTER	0	DEC	1	undersize	
807	Scouler willow	18	18	DEC	0	on ground	
808	Douglas fir	36	36	FIR	2		
809	Douglas fir	47	47	FIR	2		
810	Douglas fir	17	17	FIR	2		
811	Douglas fir	44	44	FIR	2		
812	n/a	33	33	FIR	n/a	not there	
813	Douglas fir	14	14	FIR	2		
814	big leaf maple	23	23	DEC	1	ganoderma root rot	
815	red alder	23	23	DEC	1		
816	Scouler willow	7	7	DEC	2	undersize	
817	Douglas fir	35	35	FIR	2		
818	Douglas fir	33	33	FIR	2		
819	Douglas fir	39	39	FIR	2		w
820	Douglas fir	24	24	FIR	1	broken; trunk decay	w
821	Douglas fir	32	32	FIR	2	undersize	w
822	cherry sp.	CLUSTER	0	DEC	n/a	undersize	w
823	cherry sp.	7	7	DEC	n/a	undersize	w
824	cherry sp.	8	8	DEC	n/a	undersize	w
825	cherry sp.	9	9	DEC	n/a	undersize	w

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
826	cherry sp.	7	7	DEC	n/a	undersize	w
827	cherry sp.	7	7	DEC	n/a	undersize	w
828	cherry sp.	8	8	DEC	n/a	undersize	
829	cherry sp.	CLUSTER	0	DEC	2	undersize	
830	cherry sp.	7	7	DEC	n/a	undersize	
831	cherry sp.	CLUSTER	0	DEC	n/a	undersize	
832	cherry sp.	17	17	DEC	2	ivy	
833	elderberry	CLUSTER	0	DEC	2	undersize	
834	Scouler willow	CLUSTER	0	DEC	n/a	undersize	
835	cherry sp.	7	7	DEC	2	undersize	
836	cherry sp.	CLUSTER	0	DEC	n/a	undersize	
837	cherry sp.	7	7	DEC	n/a	undersize	
838	Douglas fir	41	41	FIR	2		
839	cherry sp.	7	7	DEC	n/a	undersize	
840	cherry sp.	8	8	DEC	n/a	undersize	
841	cherry sp.	8	8	DEC	n/a	undersize	
842	Douglas fir	32	32	FIR	2		
843	Douglas fir	30	30	FIR	2		
844	cherry sp.	7	7	DEC	2	undersize	
845	red alder	13	13	DEC	1	broken	
846	cherry sp.	14	14	DEC	1	listed	
847	filbert	CLUSTER	0	DEC	n/a	undersize	
848	dead	CLUSTER	0	DEC	0		
849	red alder	25	25	DEC	2		
850	big leaf maple	30	30	DEC	2		
851	hawthorn sp	11,8	15	DEC	2	undersize	

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
852	big leaf maple	7	7	DEC	1	undersize	
853	cherry sp.	7	7	DEC	2	undersize	o
854	Douglas fir	19	19	FIR	2	suppressed	o
855	Douglas fir	35	35	FIR	2		
856	Douglas fir	20	20	FIR	2	suppressed	
857	Douglas fir	27	27	FIR	2		o
858	Douglas fir	25	25	FIR	2		o
859	cherry sp.	12	12	CHERRY	2		o
860	Douglas fir	39	39	FIR	2		o
861	cherry sp.	8	8	CHERRY	2	undersize	o
862	cherry sp.	7	7	CHERRY	2	undersize	o
863	cherry sp.	8	8	CHERRY	2	undersize	o
864	Douglas fir	35	35	FIR	2		o
865	Douglas fir	29	29	FIR	2		o
866	Douglas fir	28	28	FIR	2		o
867	cherry sp.	6	6	CHERRY	2	undersize	o
868	Douglas fir	30	30	FIR	2		o
869	hawthorn sp	CLUSTER	0	DEC	2	undersize	o
870	Douglas fir	30	30	FIR	2		o
871	Douglas fir	33	33	FIR	2	ivy	
872	Douglas fir	20	20	FIR	2		o
873	Douglas fir	25	25	FIR	2		o
874	Douglas fir	31	31	FIR	2		o
875	Douglas fir	27	27	FIR	2		o
876	Douglas fir	28	28	FIR	2		o
877	red alder	18	18	DEC	2		

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
878	hawthorn sp	24	24	DEC	2		
879	Scouler willow	7	7	DEC	0	on ground	
880	Scouler willow	10	10	DEC	1	listed	
881	Douglas fir	17	17	FIR	0	broken	
882	Douglas fir	34	34	FIR	2		
883	Douglas fir	36	36	FIR	2		
884	hawthorn sp	7	7	DEC	1	undersize	
885	Scouler willow	25	25	DEC	1		
886	Scouler willow	12	12	DEC	1		
887	Scouler willow	16	16	DEC	0	broken	
888	hawthorn sp	6	6	DEC	n/a	undersize	
889	hawthorn sp	10	10	DEC	n/a	undersize	
890	hawthorn sp	6	6	DEC	n/a	undersize	
891	red alder	20	20	DEC	2		
892	cherry sp.	9	9	DEC	n/a	undersize	0
893	cherry sp.	9	9	DEC	n/a	undersize	0
894	Scouler willow	11	11	DEC	1	undersize	0
895	cherry sp.	8	8	DEC	n/a	undersize	
896	Scouler willow	12	12	DEC	1		
897	Scouler willow	30	30	DEC	2		
898	cherry sp.	CLUSTER	0	DEC	n/a	undersize	0
899	n/a	36	36	FIR	n/a	not there	
900	hawthorn sp	7	7	DEC	n/a	undersize	0
901	hawthorn sp	CLUSTER	0	DEC	n/a	undersize	0
902	hawthorn sp	6	6	DEC	n/a	undersize	0
903	hawthorn sp	20	20	DEC	1		0

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
904	hawthorn sp	6	6	DEC	n/a	undersize	0
905	hawthorn sp	8	8	DEC	n/a	undersize	0
906	hawthorn sp	CLUSTER	0	DEC	0	undersize	0
907	Douglas fir	25	25	FIR	2	ivy	0
908	Garry oak	36	36	DEC	2	ivy	0
909	Garry oak	35	35	DEC	2	ivy	0
910	Garry oak	24	24	DEC	2	ivy	0
911	Douglas fir	29	29	FIR	2		0
912	Douglas fir	37	37	FIR	0	broken; snag	0
913	Douglas fir	11	11	FIR	2	undersize	0
914	Douglas fir	12	12	FIR	2	suppressed	0
915	Douglas fir	30	30	FIR	2		0
916	Douglas fir	36	36	FIR	2		0
917	elderberry	7	7	DEC	2	undersize	0
918	Douglas fir	22	22	FIR	2		0
919	Scouler willow	18	18	DEC	1		0
920	big leaf maple	19	19	DEC	2		0
921	Douglas fir	23,18	32	FIR	2	co-dominate from base	0
922	Douglas fir	20	20	FIR	2		0
923	Douglas fir	26	26	FIR	2		0
924	Douglas fir	17	17	FIR	1	red-ring rot	0
925	Douglas fir	33	33	FIR	2		0
926	Douglas fir	32	32	FIR	2		0
927	big leaf maple	22	22	DEC	2		0
928	cherry sp.	8	8	DEC	2	undersize	0
929	Douglas fir	38	38	FIR	2	ivy	o

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
930	Douglas fir	29	29	FIR	1	no top	o
931	Douglas fir	16	16	FIR	2		o
932	Douglas fir	22	22	FIR	2		o
933	Douglas fir	27	27	FIR	2		o
934	deciduous hardwood	6	6	DEC	n/a	undersize	o
935	cherry sp.	13	13	DEC	2		
936	Douglas fir	27	27	FIR	2	ivy	o
937	Douglas fir	14	14	FIR	2	ivy; suppressed	o
938	cherry sp.	14	14	DEC	2		o
939	Douglas fir	18	18	FIR	2		o
940	Douglas fir	24	24	FIR	2		o
941	hawthorn sp	18	18	DEC	1	broken branches	o
942	big leaf maple	7	7	DEC	1	undersize	o
943	Douglas fir	17	17	FIR	2	ivy; suppressed	o
944	cherry sp.	8	8	DEC	1	undersize	o
945	cherry sp.	8	8	DEC	2	undersize	o
946	Douglas fir	32	32	FIR	0	dead; snag	o
947	Douglas fir	25	25	FIR	0	listed; hung up in T-229	o
948	hawthorn sp	11	11	DEC	1	undersize	w
949	Douglas fir	29	29	FIR	2		w
950	Garry oak	29	29	DEC	1	excessive lean	w
951	hawthorn sp	CLUSTER	0	DEC	n/a	undersize	w
952	Douglas fir	20	20	FIR	2		w
953	Douglas fir	25	25	FIR	2		
954	Douglas fir	30	30	FIR	2		
955	Douglas fir	23	23	FIR	2		

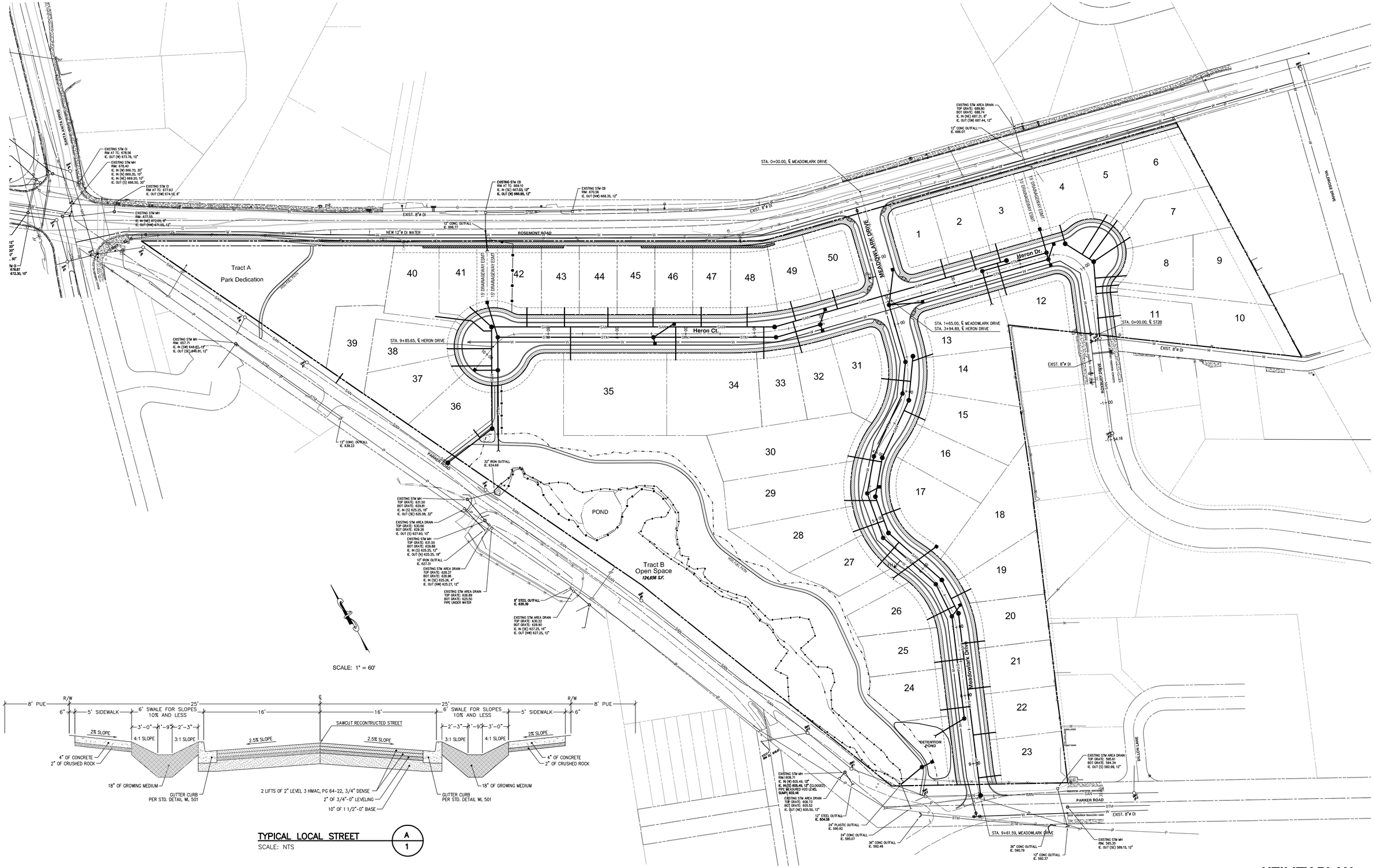
Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
956	elderberry	CLUSTER	0	DEC	n/a	undersize	
957	hawthorn sp	CLUSTER	0	DEC	n/a	undersize	
958	Garry oak	38	38	DEC	2		
959	hawthorn sp	7	7	DEC	n/a	undersize	
960	hawthorn sp	13	13	DEC	1		
961	cherry sp.	6	6	DEC	n/a	undersize	
962	cherry sp.	9	9	DEC	n/a	undersize	
963	red alder	8	8	DEC	n/a	undersize	
964	big leaf maple	CLUSTER	0	DEC	n/a	undersize	
965	red alder	13	13	DEC	1	diseased	w
966	red alder	6	6	DEC	n/a	undersize	w
967	red alder	CLUSTER	0	DEC	n/a	undersize	w
968	dead	13-dead	13	FIR	0	snag	w
969	Douglas fir	26	26	FIR	2		w
970	Douglas fir	19	19	FIR	2		w
971	Douglas fir	18	18	FIR	1	broken	w
972	Douglas fir	26	26	FIR	2		w
973	red alder	12	12	DEC	2		w
974	red alder	10	10	DEC	2		w
975	red alder	11	11	DEC	2		w
976	dead	9-dead	9	DEC	0		w
977	red alder	7	7	DEC	2		w
978	red alder	7	7	DEC	2		w
979	cottonwood	12	12	DEC	2		w
980	cottonwood	24	24	DEC	2		w
981	cottonwood	18	18	DEC	2		w

Tag	Species	DBH	DBH^2	Type	Rating	Condition	Location
982	cottonwood	7	7	DEC	n/a	undersize	w
983	red alder	22	22	DEC	1	dead top	w
984	dead	17	17	DEC	0		w
985	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
986	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
987	Garry oak	13	13	DEC	2		w
988	Scouler willow	7	7	DEC	1	undersize	w
989	Scouler willow	10	10	DEC	1	undersize	w
990	cottonwood	18	18	DEC	2		w
991	cottonwood	48	48	DEC	2		w
992	Scouler willow	15	15	DEC	0	on ground	w
993	cottonwood	43	43	DEC	2	in pond	w
994	Scouler willow	CLUSTER	0	DEC	n/a	undersize	w
995	Scouler willow	8	8	DEC	n/a	undersize	w
996	cottonwood	24	24	DEC	2		w
997	cottonwood	11	11	DEC	n/a	undersize	w
998	cottonwood	19	19	DEC	1	diseased	w
NO TAG		CLUSTER	0	DEC			
NO TAG		7	7	HOLLY			
NO TAG		CLUSTER	0	DEC			

W indicates tree is in Wetland space. O indicates tree is in Open space.
DBH is diameter at breast height.
DBH^2 is adjusted diameter.

APPENDICES

Site Vicinity Map
Aerial photo
Development Plan
Existing Conditions Plan
Delineation



SCALE: 1" = 60'

TYPICAL LOCAL STREET — A/1

SCALE: NTS

2015-129M

UTILITY PLAN

DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 60'			
DATE:	March, 2016			
FILE:	Rosemont Design Review5	DATE	NO.	REVISION

Theta, llc
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PO Box 1345
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email: thetaeng@comcast.net

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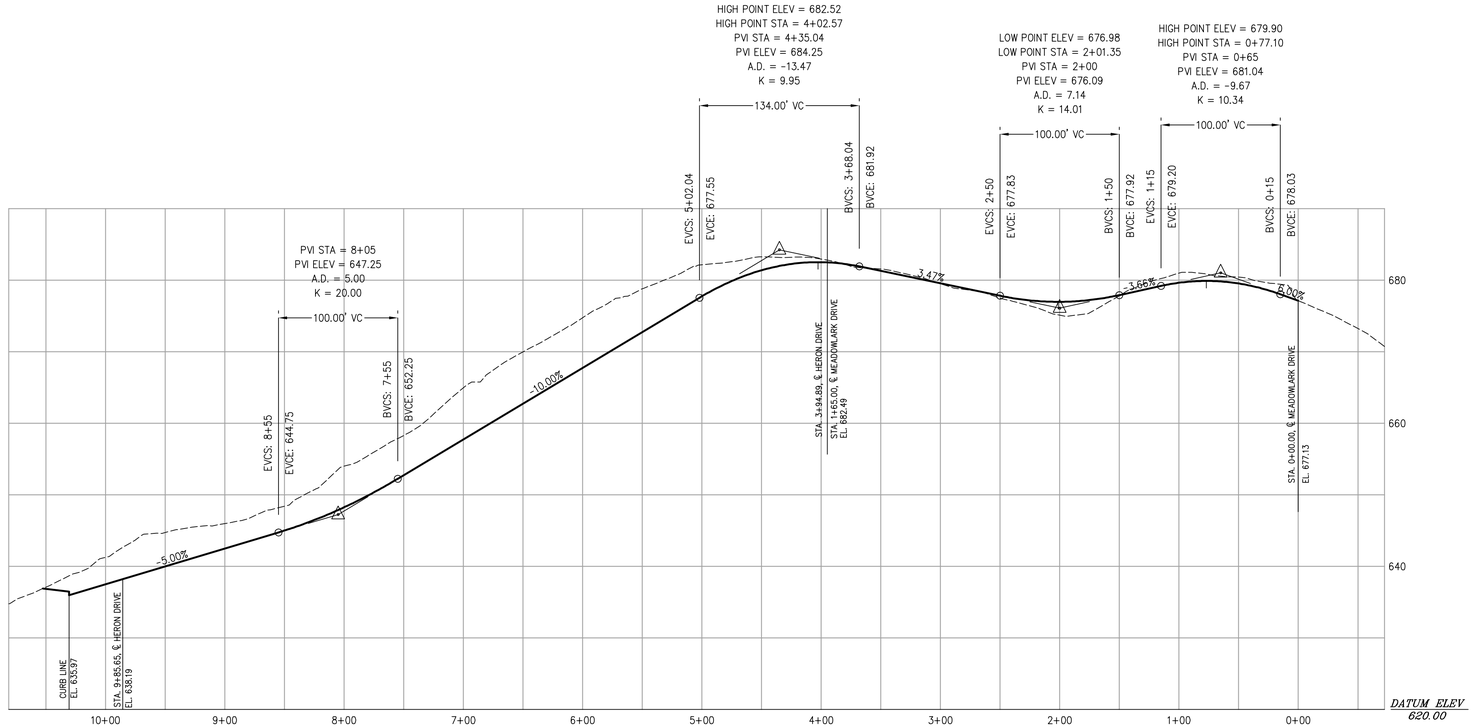
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

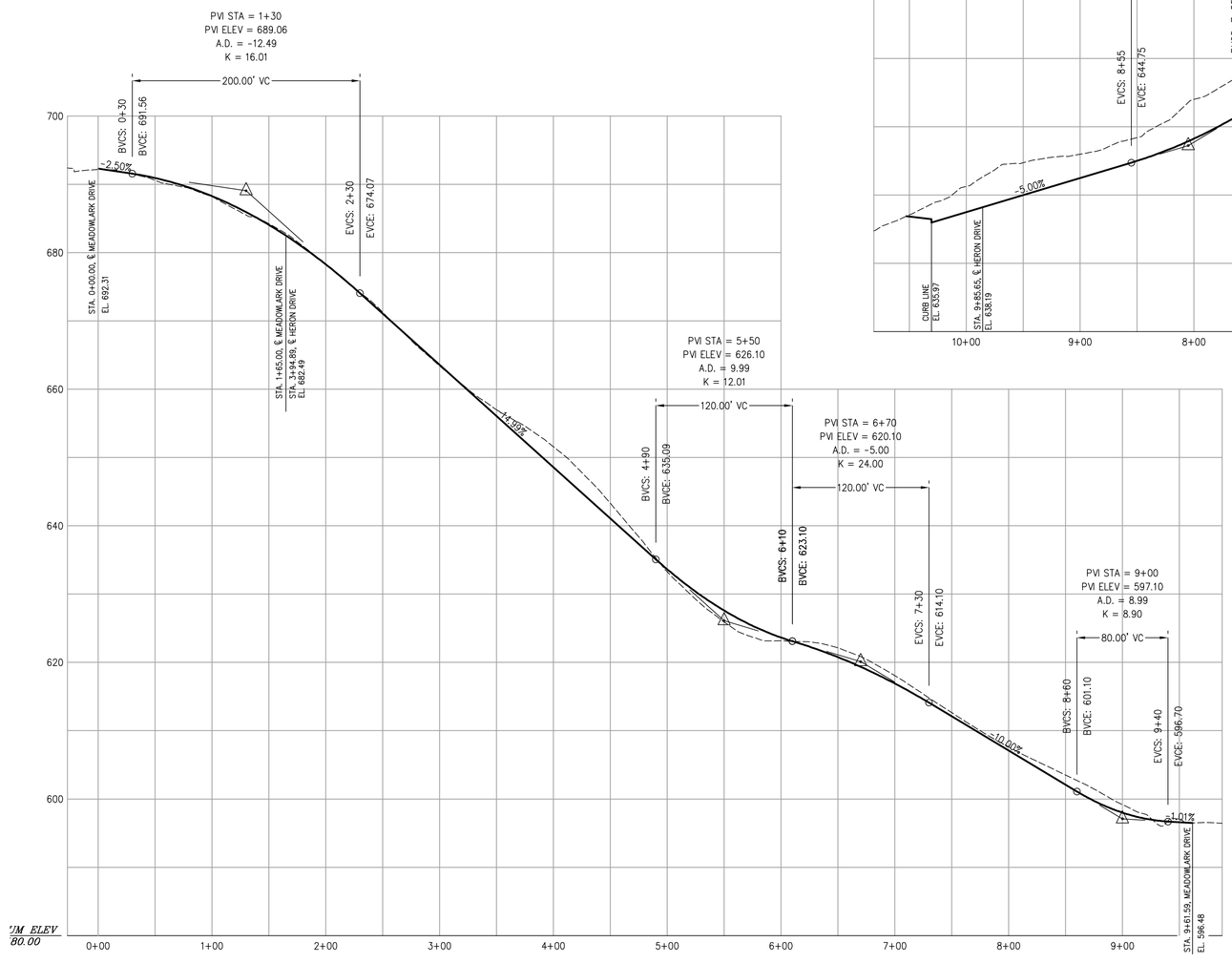
Tanner Ridge

SHEET: 1/3



HERON DRIVE
CENTERLINE PROFILE (1/2)

SCALE: 1" = 60' HORIZONTAL
1" = 10' VERTICAL



MEADOWLARK DRIVE
CENTERLINE PROFILE (2/2)

SCALE: 1" = 60' HORIZONTAL
1" = 10' VERTICAL

STREET PROFILES

2015-129M

DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 60'			
DATE:	March, 2016			
FILE:	Rosemont Design Review5	DATE	NO.	REVISION

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SHEET: 2/3

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2015-129M

CONCEPT PLAN

DESIGNED:	BDG			
DRAWN:	BJS			
SCALE:	1" = 60'			
DATE:	March, 2016			
FILE:	Rosemont Design Review5	DATE	NO.	REVISION

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Tanner Ridge

SHEET: 3/3

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EXISTING CONDITIONS MAP

TAX LOTS 300 & 1100
LOCATED IN THE N.E. 1/4 &
S.E. 1/4 SECTION 26, T.2S., R.1E., W.M.,
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON
JANUARY 18, 2016 SCALE 1"=120'
S&A#2409

SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON NAVD-88, BENCH MARK "SALAMO" WITH AN IDENTIFICATION NUMBER OF PID-AJ8196. THE ELEVATION OF THIS BENCH MARK IS 672.72 FEET.

A TRIMBLE S6-SERIES ROBOTIC INSTRUMENT WAS USED TO COMPLETE A CLOSED LOOP FIELD TRAVERSE.

THE BASIS OF BEARINGS FOR THIS SURVEY IS PER MONUMENTS FOUND AND HELD PER THE PLAT OF "ROSEMONT SUMMIT NO. 2", RECORDS OF CLACKAMAS COUNTY.

THE PURPOSE OF THIS SURVEY IS TO RESOLVE AND DETERMINE THE PERIMETER BOUNDARY OF THE SUBJECT PROPERTY, TO SHOW ALL PERTINENT BOUNDARY ISSUES AND ENCROACHMENTS. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.

NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.

FIDELITY NATIONAL TITLE COMPANY OF OREGON PRELIMINARY TITLE REPORT NUMBER 45141528335, DATED NOVEMBER 27, 2015 AS PROVIDED HAS BEEN USED AND REFERENCED IN PREPARATION OF THIS MAP. PLEASE REFER TO THIS DOCUMENT FOR DESCRIPTIONS OF EXCEPTIONS TO TITLE INSURANCE.

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FUTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

WETLAND/OHW BOUNDARIES AND SAMPLE PLOTS LOCATED IN THE FIELD BY SCHOTT AND ASSOCIATES. SURVEYED BY CENTERLINE CONCEPTS LAND SURVEYING, PLS.

ROSEMONT ROAD

32" IRON OUTFALL
EL. 624.69

SP J1
PP1

SP J2

SP J3
PP2

WETLAND A
244 SQUARE FEET.

SP J5

SP J4

SP C2

POND

SP C3
PP4

WETLAND B
945 SF.

WETLAND C
81 SQUARE FEET.

WETLAND D
64 SQUARE FEET.

WETLAND E
1,442 SQUARE FEET.

SP J9

SP J8
PP5

SP C4

SP J10
PP6

FLOW LINE

WETLAND G
515 SQUARE FEET.

WETLAND F
5,263 SQUARE FEET.

SP J11

WETLAND H
1,450 SQUARE FEET.

24" PLASTIC OUTFALL
EL. 595.92

OHW

VISTA POINT

VIEWPOINT ROAD

SALAMO ROAD

N

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1 INCH = 120 FT.

SIGNED ON:

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 13, 2004
TROY G. BOLDEN
60377LS

RENEWS: DECEMBER 31, 2017

CENTERLINE CONCEPTS
LAND SURVEYING, INC.

Applicant/Owner:
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Legal: 2-1E-26A TL 1100
2-1E-26D TL 300

Water: City of West Linn

Sewer: City of West Linn

Contours: Centerline Concepts, Inc.

Site Area: 15.14 Acres

Engineer:
Theta Engineering, Inc.
PO Box 1345
Lake Oswego, OR 97035
PH: (503) 481-8822

Surveyor:
Centerline Concepts, Inc.
700 Molalla Ave.
Oregon City, OR 97045
PH: (503) 650-0188

Zoning: R-10

SIGNED ON: ____________

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JULY 13, 2004
TOBY G. BOLDEN
60377LS

RENEWS: DECEMBER 31, 2017

Design by: Richard E. Givens, Planning Consultant
Survey Work by: Centerline Concepts, Inc.

Street Tree

Building Envelopes

Slopes 25% to 35% grade.

Density Calculations

	Area (sq. ft.)	Allowable Density	Units @1 per 10,000 sq.ft.
Gross Site Area	659,610		
Land in a boundary street right-of-way, water course, or planned open space where density transfer is not requested:	0		
Area in street right-of-way:	124,185		
Net Site Area:	535,425		
Area within Type I or II slopes where Developed:	4,273	50%	0.21
Area within Type I or II slopes where Density Will be Transferred:	6,846	75%	0.51
Area within Water Resource Area-all development transferred.	99,364	50%	4.97
Open Space (Type III and IV Lands)	58,759	100%	5.88
Type III & IV Land Developed:	366,185	100%	36.62
Base Density Allowed:			48
Density Bonus for Park Dedication:		5%	2
TOTAL ALLOWED DENSITY:			50 UNITS

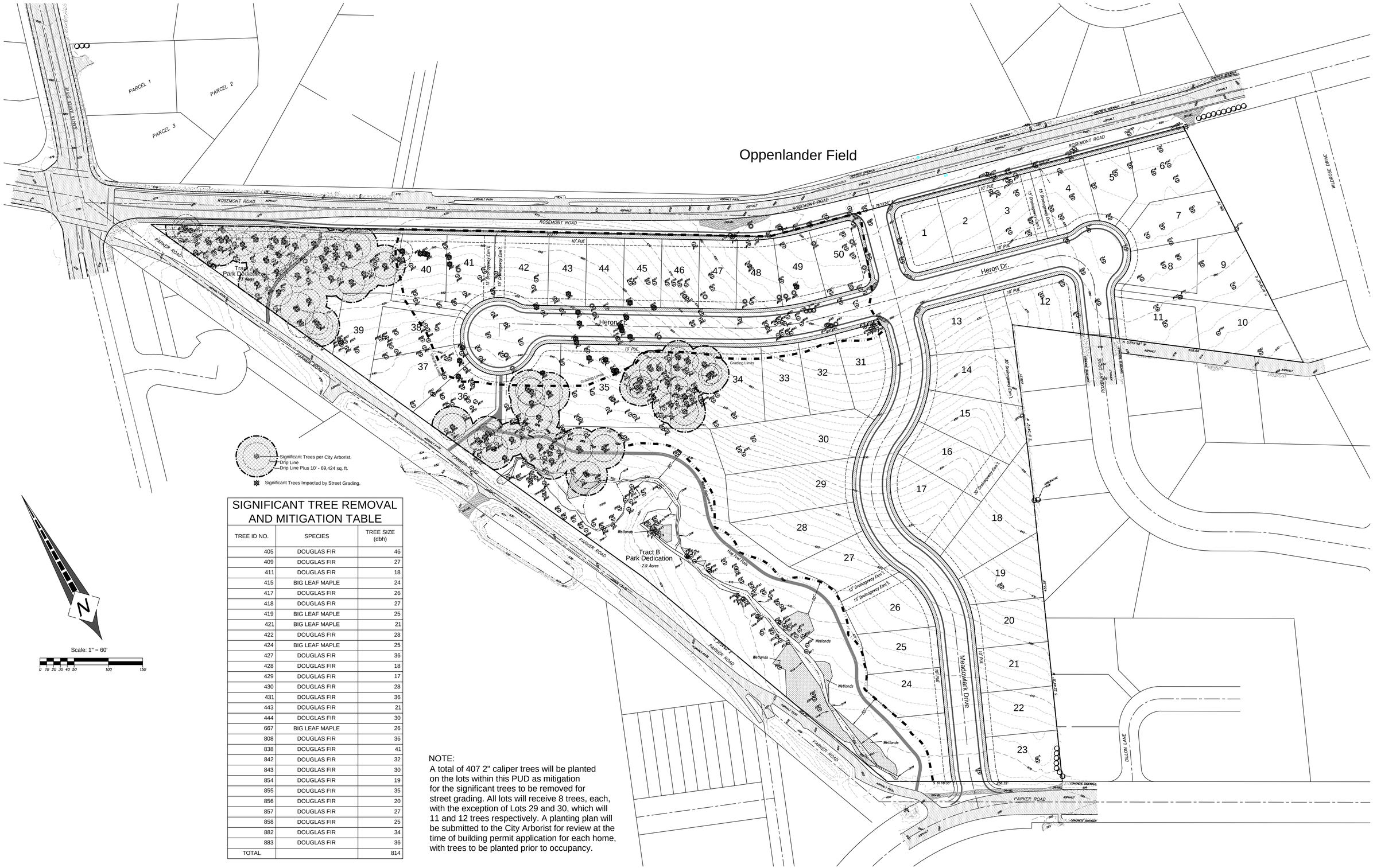
DESIGNED:	REG			
DRAWN:	REG			
SCALE:	1" = 60'			
DATE:	April 2016			
FILE:	15-ICN-107	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
18680 Sunblaze Dr.
Oregon City, OR 97045
PH: (503) 479-0097

APPLICANT: Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, OR 97068
PH: (503) 657-0406

Tanner Ridge at Rosemont
Tentative Plan

SHEET: 1/2



SIGNIFICANT TREE REMOVAL AND MITIGATION TABLE

TREE ID NO.	SPECIES	TREE SIZE (dbh)
405	DOUGLAS FIR	46
409	DOUGLAS FIR	27
411	DOUGLAS FIR	18
415	BIG LEAF MAPLE	24
417	DOUGLAS FIR	26
418	DOUGLAS FIR	27
419	BIG LEAF MAPLE	25
421	BIG LEAF MAPLE	21
422	DOUGLAS FIR	28
424	BIG LEAF MAPLE	25
427	DOUGLAS FIR	36
428	DOUGLAS FIR	18
429	DOUGLAS FIR	17
430	DOUGLAS FIR	28
431	DOUGLAS FIR	36
443	DOUGLAS FIR	21
444	DOUGLAS FIR	30
667	BIG LEAF MAPLE	26
808	DOUGLAS FIR	36
838	DOUGLAS FIR	41
842	DOUGLAS FIR	32
843	DOUGLAS FIR	30
854	DOUGLAS FIR	19
855	DOUGLAS FIR	35
856	DOUGLAS FIR	20
857	DOUGLAS FIR	27
858	DOUGLAS FIR	25
882	DOUGLAS FIR	34
883	DOUGLAS FIR	36
TOTAL		814

NOTE:
A total of 407 2" caliper trees will be planted on the lots within this PUD as mitigation for the significant trees to be removed for street grading. All lots will receive 8 trees, each, with the exception of Lots 29 and 30, which will 11 and 12 trees respectively. A planting plan will be submitted to the City Arborist for review at the time of building permit application for each home, with trees to be planted prior to occupancy.

DESIGNED:	REG			
DRAWN:	REG			
SCALE:	1" = 60'			
DATE:	April 2016			
FILE:	15-ICN-107	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
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APPLICANT: Icon Construction & Development, LLC
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Tanner Ridge at Rosemont
Tree Preservation Plan

SHEET: 2/2